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ORIGINAL ARTICLES.

CÆSAREAN SECTION, WITH REPORT OF A CASE AND A FULL DESCRIPTION OF THE "SÆNGER OPERATION."

Read before the Cincinnati Academy of Medicine, January 30, 1888.

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March 17, 1887, at 8.30 A.M., I was called in consultation by Dr. Adolph Grimm to see Mrs. G., an Austrian by birth, aged 23, primipara. She had been in labor thirty-six hours, under the care of a midwife. Dr. Grimm had been summoned about two hours prior to my arrival. He found the pelvis contracted, the os dilated, the head in first position and above the brim. He had made several attempts at delivery with the forceps, but without success.

The patient occupied a small room in one of the crowded tenement districts, the usual surroundings of which are well-known to every practitioner of experience. The patient was a dwarfed, pale brunette, fifty-one and three-fourth inches tall; thirty inches from vertex to tip of coccyx. The lower limbs were abnormally small and knock-kneed; the sacrum joined the lumbar vertebræ almost at right angles; she was tolerably well nourished. Her face was pale, and wore an anxious expression; her skin was cold and clammy; the abdomen tympanitic, and tender to the touch. She complained of constant severe pain in the pelvis, and supra-pubic region, which became almost intolerable during the contraction of the uterus. Temp. 100°, pulse 110. Fœtal heart was distinctly heard to the left of the median line, on a level with the umbilicus. Digital examination revealed a swollen, livid vulva and vagina; a fully dilated, but thick and flabby cervix. The head of the child rested (occiput to the left) transversely above the superior straight. Deformity of the pelvis was at once apparent from the position of the sacrum, the coccyx being buried in the bed clothes, and the hand of the examiner being allowed to pass easily under the back of the patient. The promontory could be felt without difficulty. The middle of the first phalanx of my right index finger being firmly fixed against the lower border of the symphysis pubis, permitted the tip of the same finger to rest against the promontory of the sacrum, a distance of about three inches (see Plate xvi, Fig. c). Thus, according to ordinary calculation, the conjugate diameter at the brim could not be more than two and one-fourth inches. The oblique and transverse diameters of the inlet could not be exactly determined, though at the time it seemed possible that delivery might be effected *per vias naturales*. The forceps were again applied, and an effort made to fix the blades to the sides of the child's head, but failing in this, the head was grasped over the face and occiput. With each pain, steady and firm traction was made. A few minutes served to convince me that it was impossible to deliver the child alive through the natural channel. One of two things had to be done: Mutilation of the child, or Cæsarean Section. The former would have been resorted to had the child been dead. To destroy the infant and effect delivery, with the soft parts of the mother in an already swollen and tender condition, did not seem justifiable to us, because, it might have resulted in the laceration of the organs, to a greater or less degree. Circumstances called for immediate action. Whatever was to be done, had to be done at once. To resort to craniotomy was to sacrifice the life of the infant, while it would not have materially enhanced the mother's chances of life. Hysterotomy, I felt reasonably certain, would save the infant at least, while at the same time it did not deprive the mother of all hope of recovery. Therefore it was determined to resort to Cæsarean Section.

The operation was performed at 10 A.M. of the same day, Drs. A. Grimm and B. Zinke assisting; the husband and midwife were also present. The patient was placed upon a table opposite a window. The temperature of the room was kept at about 90° F. throughout the operation. Dr. B. Zinke administered the chloroform, after ¼ gr. morph. sulph. had been given subcutaneously. Abdomen, vulva and upper portions of both thighs were then washed with soap and hot water, instruments and sponges were treated antiseptically. Hands of operator and assistants were cleansed thoroughly.

The woman being anæsthetized, I made a five and one-half inch incision in the median line of the body, midway between the umbilicus and mons veneris. Before opening the womb all hæmorrhage was stopped. Dr. Grimm then placed his hands upon the abdomen, surrounding as much as possible the opening made, and gently, but firmly, pressed the abdominal parieties against the uterus. The point

selected for the incision in the womb was also in the median line. The position of the child could be easily outlined by running the tip of the finger over the exposed portion of the womb, and from this palpation I was satisfied that the placenta was not attached thereto. Membranes had ruptured many hours previously; the uterine walls, when not contracted, were flaccid. The point chosen for the incision was the median line of the uterus about midway between the fundus and neck of the uterus. A small opening was at first made into the womb (in the upper portion) with an ordinary scalpel. Through this, a curved, blunt-pointed bistoury was introduced and the opening carefully but rapidly enlarged to about four and one-half inches. There was profuse, but not excessive hæmorrhage, Dr. Grimm dextrously preventing it, and the remaining amniotic fluid from entering the abdominal cavity.

The extraction of the child was the work of a few seconds only. The right arm from elbow to shoulder was presented in the cut of the womb. Taking hold of the arm gentle traction at once assured me that delivery could not be effected in this manner without running the risk of tearing the uterus. In attempting to deliver it by the feet, the same difficulty presented itself. I then inserted my left hand (standing to the left of the patient) through the lower angle of the wound, and pushed it downward between the anterior wall of the womb, and the right side of the head over the vertex. Then tilting the head of the child upward and forward, it was easily guided through the opening and delivered. It proved to be a full grown, healthy child.

The womb contracted immediately and hæmorrhage amounted to but little thereafter. At this time the patient was pale; the pulse perceptible, but very weak; her breathing was unembarrassed. The cord, after being tied and severed, was carried through the incision in the uterine cavity through the cervix, brought out at the vulva, and the placenta delivered per os and vaginam. While thus exposed, the uterus was observed to pass through several regular contractions. I intended to close the opening in the womb with a continued carbolized catgut suture, but when this was nearly finished, the suture broke in several places and consequently had to be abandoned. I then resorted to the interrupted carbolized silk suture, eight stitches being introduced.

Inspection and Cleansing of the Peritoneal Cavity.—The intestines had not been exposed. Although, several small, soft and thoroughly prepared sponges were dipped down deeply all around the uterus, nothing but the merest trace of blood could be found. When satisfied that the abdominal and pelvic cavities were clean, and that there was no oozing anywhere, the

Abdominal Wound was closed by eight heavy silk sutures. A strip of lint, dipped in carbolized oil was placed over the wound. The rest of the dressing consisted of a layer of absorbent cotton and a moderately tight abdominal bandage. The time elapsed, from the giving of the anæsthetic to this point was one and one-half hours. This may be divided as follows:

For anæsthetic, about	20 min.
" abdominal incision and stopping of hæmorrhage, about	7 "
" uterine incision, delivery of child, and tying cord, about	3 "
" guiding the cord through the cervix, vagina, and out of the vulva: sewing up the uterine wound and the delivery of the placenta, about	35 "
" cleansing the abdominal and pelvic cavities respectively, sewing up the abdominal incisions and dressing the wound and the patient	25 "
Total,	90 "

COURSE AND TREATMENT.

1st Day.—2 P.M. Two hours after the operation patient suffered slight pain in the wound. Pulse 120. Temp. 101¾°. Resp. normal. ¼ gr. morph. sulph. subcutaneously. Ice bag placed over the dressing.

5 P.M. Temp. 101¾. Pulse 120, strong and full; patient felt comfortable. Two drops of tr. ver. vir. were given every 2 hours and morphine in ¼ gr. doses *per os* every 2–3 hours when required.

7. P.M. Pulse and temperature the same. No pain.

12 P.M. Pulse 132. Temp. 102°. No pain.

2d Day.—9 A.M. Pulse 132. Temp. 100¼. No pain. Patient vomited several times during the night. Morphia *per os* discontinued.

12 M. Pulse 132. Temp. 100½°. No pain.

6 P.M. Pulse 136. Temp. 100½°. Pain in pelvic region; abdomen slightly distended. Morph. sulph. gr. ¼ hypodermically.

12 P.M. Pulse 132. Temp. 101°. ¼ gr. morph. sulph. subcutaneously.

3d Day.—9 A.M. Pulse 108. Temp. 101¾°. Slight spasmodic pains over the lower portion of abdomen, apparently due to uterine contractions. No tympanitis. Tr. ver. vir. discontinued and ¼ gr. morphia given hypodermically.

12 M. Pulse 120. Temp. 102¼°. Patient comfortable; tr. ver. vir. was again ordered to be given hourly, in 2 drop doses on account of increased pulse rate.

5 P.M. Pulse 120. Temp. 102°. Slight pain in supra-pubic region. Lochia somewhat offensive and irritating in character. Vaginal irrigations with carbolized warm water. Abdominal dressing changed for the first time, and wound found to have united by first intention. No tympanitis. ¼ gr. morphia subcutaneously.

12 P.M. Pulse 120. Temp. 100¼°. Patient suffering slight pain. Another injection of ¼ gr. of morphia.

4th Day.—9 A.M. Pulse 120. Temp. 100½°. Increased pain, slight distension of abdomen. Genital tract irrigated and morph. sulph. ¼ gr. hypodermically.

5 P.M. Pulse 136. Temp. 102¼°. Feels hot, very thirsty and restless. No pain.

10 P.M. Pulse 140. Temp. 99½°. Patient felt comfortable; no pain; abdomen not distended.

5th Day.—2 A.M. Patient seized with severe vomiting and thereafter complained of great pain in lower half of abdominal, and entire pelvic region.

9 A.M. Pulse 160. Temp. 103°.

Digital examination of genital tract revealed great

tenderness of the uterus and its surroundings, with slight œdema and partial fixation of the womb. Removal of abdominal dressing showed no marked tympanites. While the union throughout the incision was perfect, distinct spots of redness were found around the points where the sutures entered the integument. Lest this might prove a source of irritation, all the sutures were removed and the abdomen supported by long strips of rubber adhesive plaster, an inch broad, and an abdominal bandage placed over it as before, and the vagina again irrigated.

Antifebrin, gr. x, and morph. sulph. ¼ gr., were then administered.

5 P.M. Pulse 140. Temp. 100⅘°.

12 M. Pulse 156. Temp. 102½°. The patient restless, slightly delirious. Increased tympanites and tenderness over abdomen.

6th Day.—9 A.M. Pulse 156. Temp. 102⅘°. General condition unchanged. Antipyrin, gr. x, morph. ¼ gr.

5 P.M. Pulse 160. Temp. 102⅘° The patient had become semi-conscious, while her strength was rapidly failing. Whiskey administered hypodermically, using xxx ♏. every two hours.

12 P.M. Pulse 160. Temp. 103⅘°. Tympanites much increased; delirious; no pain, but very restless; whiskey, xxx ♏. every hour, hypodermically.

7th Day.—8 A.M. Severity of all symptoms augmented. Pulse 160. Temp. 104½°. Abdomen greatly distended but wound still intact. Patient semi-conscious. No pain, but much depressed and exhausted. During the last few hours she suffered intensely from dyspnœa, which caused great restlessness and tossing about.

2 P.M. She died from the combined effects of peritonitis, dyspnœa and asthenia. (See Plate xvii.)

The ice-bag was kept on the abdomen for nearly three days, during which time it seemed to have a favorable effect upon the patient, after that it was a source of discomfort, and therefore it was discontinued and warm flannel substituted. In the beginning the diet was mild; later, more nourishing and concentrated food was given, in so far as it agreed with the patient's stomach.

The following diet was maintained: Milk, mutton, beef and chicken broths, toast, the juice of broiled beef, port wine, and at one time a little beer was given to satisfy a strong craving for it. In the absence of any desire for food and the repeated attacks of vomiting the nourishment she received in the aggregate amounted to very little.

Post-mortem Examination was held the following morning in the presence of Drs. C. D. Palmer, Ed. Walker, Adolph Grimm, Bruno Zinke and Thomas Hays.

Rigidity not very well marked; body in good state of preservation; features pinched and sunken; integument not discolored; abdominal walls enormously distended; wound gaping in the central portion to the extent of two and a half inches, a condition discovered only post-mortem, and which must have occurred shortly before or after death, and was no doubt caused by the patient's extreme restlessness and throwing herself from side to side during the final struggle.

The abdominal contents were held in place by a firm thick band of adhesion which had formed along the inner surface of the abdominal wall for more than an inch on each side and beyond the extremities of the incision, matting the omentum, uterus and bowels to the inner surface of the anterior abdominal walls.

The cut was then enlarged to the sternum above and symphisis below. The intestines, distended with gas, showed a diffuse peritonitis, adhering universally to each other, to all the adjoining viscera and abdominal parieties, with the exception of the lower two-thirds of the uterus, the bladder, and the true pelvic cavity. Having removed the intestines, the liver, spleen and kidneys were found to be normal. The body of the womb, high up above the brim, was bent upon the lower lumber vertebræ, over the promontory of the sacrum, and measured about seven inches in its vertical, and five inches in its greatest transverse diameter. The walls at the upper third, where its transverse diameter was greatest, showed an inch thickness, except in the proximity of the incision. Here they tapered off from the inner to the outer surface, which was apparently due to sloughing. All along this wound from the peritoneal surface, half way through the parenchyma of the womb, the union seemed to be perfect. On examining this wound with great care, it was found that the union had not been effected along the entire tract of the incision. A space of about a quarter of an inch, corresponding to the upper suture, had failed to unite. There was no communication, however, between the uterine and peritoneal cavity; this being rendered impossible by the adhesion of this section of the womb to the abdominal wall in front. The remainder of the surface of the uterus and its appendages were smooth, but marked with indentations by surrounding structures. It was also greatly discolored, almost black, especially so at the inferior half, and both the ovaries.

The pelvic peritoneum had the same appearance. The upper half of the body of the uterus had a yellow, greenish tint. There was no fluid pus present anywhere, nor adhesions between the pelvic viscera and pelvic peritoneum. But there was to be seen a peculiar curdled, cream-like, non-adhesive pus, distributed in spots, or islands, upon the pelvic viscera and the peritoneal lining of the pelvic cavity. The uterus and appendages having been removed the following were the

Diameters of the pelvis at the superior strait. For convenience of comparison, I have placed them alongside of the average normal diameter.

In this Patient.		Natural Average Diameter.	
Conjugate diameter..	2½ in.	Conjugate diameter..	4½ in.
Transverse "	4½ "	Transverse "	5¼ "
R. oblique "	3¾ "	R. oblique "	5 "
L. "	3¾ "	L. "	5 "

(See Plate xvi, Fig. A, E, and F.)

The diameters of the inferior strait and of those within the pelvis could not be taken with any degree of accuracy, though I believe that could the head have been made to pass the brim the rest of the cavity

would have offered no very great obstruction to the delivery of the child.

REMARKS.

1. *Was Cæsarean Section indicated in this case?*

2. *Was an operation justifiable at the time and place and under the circumstances under which it was performed?*

In this country 2 inches, in Germany, France, and other European countries 2.73 inches and less, of the conjugate diameter, at the brim, is considered the limit at which hysterotomy may be resorted with perfect propriety, provided the infant still lives, and that the pelvis is not so distorted as to permit the passage of the head to one or the other side of the conjugate. In other words, contraction of the antero-posterior diameter alone, is not to be considered a sufficient cause for the performance of the operation. I must confess that in this case I believed, prior to the operation, that the conjugate at the upper strait was not more than 2 or 2¼ inches. The transverse and oblique diameters at the brim, though likewise only approximately determined, were recognized as less than normal in size. Notwithstanding, I believed myself justified in making another attempt to deliver the child with forceps, for it still seemed to me possible that a small child might be made to traverse this contracted pelvis. The introduction of the forceps was not attended by any great difficulty. Locking the instruments was not so easily accomplished. The blades grasped the head over the face and occiput. It was impossible to apply them over the sides, and hence was not persisted in. Then gentle, later firm, and finally severe traction was made with each pain, but not the least progress effected.

What was then to be done? I believe with the majority that it is wiser and more humane to spare the life of the mother though the child is sacrificed, if by so doing her life can be saved with any degree of certainty. This, however, was not possible in the instance just cited. All things being well considered, hysterotomy was determined upon, and performed in the presence of the gentlemen mentioned. To have abandoned the case entirely, or to have had her removed to more sanitary quarters would have been cowardly, to say the least, and would have resulted in the immediate death of both the parent and child.

For these reasons, with Dr. Grimms' consent, I assumed all the responsibility of the case.

To what may the fatal issue in this case be attributed? The causes operative in the result obtained may be summed up as follows:

1. Long delayed and exhaustive labor.
2. Repeated unsuccessful attempts to deliver with forceps.
3. Bad hygienic surroundings of patient.
4. Shock of operation.
5. Vomiting and inability to retain sufficient nourishment.
6. Development of general peritonitis.

The operation was executed carefully and antiseptically with no mishaps, excepting the tearing of the carbolized catgut suture. The child was saved but the mother died on the seventh day. That she lived so long is undoubtedly due to the great care and unremitting attention which Dr. Grimm bestowed upon her.

In this connection it may be proper to state that in this operation, as well as in any other so-called capital surgical procedure, a certain amount of practical experience in the performance of the operation itself is absolutely necessary to success. But where, it may be asked, is a practical experience in Cæsarean section to be acquired? It would seem that this country offers very limited opportunity for this special practice. This is true also of all other obstetric operations. The fearful death-rate attending hysterotomy in this country, as manifested by the following statistics of R. B. Harris, may be directly traced to the meagre obstetrical resources that this country furnishes, as well as to the consequent inadequate teaching of midwifery by its medical schools. Where the teaching of obstetrics is most thorough, practically, Cæsarean section has been oftenest successfully performed. "Germany," as Harris says, "takes the premium," while America shows the lowest per cent. of recoveries. This fact will remain so long as the teaching of practical midwifery remains more or less a strange one to the profession of this broad land.

THE IMPROVED CÆSAREAN SECTION.

Considerable improvement has been made by Sänger in the operative technique of hysterotomy, when compared with the so-called classical operation. Not that he himself has discovered the various procedures of the different and successive steps in his new method of operating—he makes no such claim—but by careful study, painstaking observation, research and experiments, he has been able to formulate a method that bids fair to create a revolution in operative obstetrics. Strange as it may seem, prior to 1887 English and American medical literature was almost silent on this subject; and Sänger's book, published in 1882, has received little or almost no attention from the English speaking profession. Parvin (*Science and Art of Obstetrics*, '86) quotes an account derived chiefly from Potacki (*Annales de Gynécologie f*, 1886). It is a faithful description of the Sänger operation, but contains no drawing showing the manner of introducing the uterine suture. Lusk (*Science and Art of Midwifery*) is the only recent author who makes an attempt to illustrate the manner of undermining the peritoneum and of resecting the muscular tissue. We find a full though not altogether very clear description of this operation in Charpentier (Grandin *Encyclopedia of Obstetrics and Gynecology*, 1887). But I know of nothing that brought the suggestions of Sänger more thoroughly before the profession of this country than the rich and spicy "Sänger-Garrigues controversy" concerning the claims and merits of the former, whose name the operation now bears; and which resulted in victory on the other, and defeat on this side of the Atlantic. The wonderful results achieved through the labor of Sänger and his followers, Leopold, Crede, Gusserow, and others, cannot fail to

challenge attention wherever they are known. In view of the fact that the subject of

The *New Cæsarean Section, or Sänger Operation*, has received no attention from this Academy, and because I am convinced that henceforth it will, or at least should, become a more frequent and successful, not a last and futile resort, to save the life of the lying-in and her offspring, I have concluded to furnish a detailed description of the same.

I translate from an essay by Sänger, delivered at Munich, 1886, before Der Deutschen Gesellschaft fuer Gynäcologie:

"1. *Preparations.* No peculiar instruments other than those which every physician should have in his possession, are necessary. They may be disinfected with carbolic solution, while both patient and operator employ bichloride for this purpose. Thorough disinfection of the shaved abdomen, of the external genitalia, vagina, even of the neck, are essential to success. Sponges are not absolutely necessary. Cotton-wads dipped in solution of sublimate, carbolic acid, or chlorine water, as well as napkins of sublimate gauze, mull, etc., may be substituted. Besides the nurse, who is to take care of the infant, two persons are requisite for assistance. The anæsthetic may, in case of necessity, be trusted to a layman.

"2. *Abdominal Incision* should always be in the linea alba and in a manner corresponding exactly to the anterior median section of the uterus. The umbilicus need not be avoided. Hæmostatic forceps and the introduction of provisional sutures for the purpose of subsequently drawing the incision together are not essential. Eventration of the unopened womb is not advisable, because it necessitates enlargement of the abdominal incision and renders intestinal prolapse more liable, unless one desires to be quite sure (in the absence of sufficient assistance) that none of the uterine contents escape into the abdominal cavity.

"3. Uterine incision, *in situ*, is made in the median line midway between the fundus and lower segment of the uterus; the latter, especially, should be avoided, and may be recognized by the loose attachment of its peritoneum. By placenta *prævia Cæsaria*, the placenta should be either quickly cut through or detached on one side. Delivery of the child is accomplished in the best and quickest manner by the feet. If the head be retained, wait a short time only if this be due to contraction of the uterus; if relaxation does not occur soon, or if the incision be too small, elongate the same with button-pointed scissors.

"4. Eventration of the uterus is effected during the extraction of the child, it being bent forward and the abdominal wall quickly pressed together behind it. If the assistant has kept the latter all this time intimately in contact with the womb, neither blood nor uterine contents can find their way into the abdominal cavity.

"The bowels may now be protected with an antiseptic cloth, the uterus then rests upon another and is partly covered thereby. For the purpose of arresting hæmorrhage from the womb, compression by hand, or torsion of the organ in its long axis, may be substituted in the absence of rubber tubing. Eventration and the bending forward of the empty uterus, as well as retraction and contraction of the same, have already served to lessen the loss of blood materially. The afterbirth is to be carefully detached manually, the perviousness of the os examined, and the inner surface of the uterus rendered smooth. The uterine cavity need not, under ordinary aseptic conditions, be disinfected, though one can introduce some iodoform, and also, until the deep sutures have been inserted, a sponge or a few strips of antiseptic gauze.

"5. Sutures. In the interest of simplicity, it is not necessary to undermine the serosa, bending in of the same after fissuring it laterally, nor to resect the muscularis, unless there exists strong outward retraction of the peritoneum, broad exposure of the muscularis, bow-shaped condition of the angles of the incision and irregular, rugged borders of the wound; then, of course, the latter must be rendered even and parallel, and the peritoneal edges must be brought inwardly so as to be in apposition.

"The principal point in the treatment of the uterine wound is the close (enge) double suture. Soft silver wire is best suited for the deep stitches; they should seize both peritoneum and parenchyma broadly, but leave the decidua free; the point of entrance and exit of the needle should be about 1 cm. from the margin of the incision; 8–10 deep sutures are sufficient. After these sutures have been introduced, tightened and shortened, a great number (16 to 30) of superficial, serous sutures are so inserted that each peritoneal border of the opening is perforated twice, after the manner of Lembert. (See Plate ii, Figs. 1 and 2.) If silver wire be not at hand, strong aseptic silk may be employed.

"6. The final acts in the operation consist in the bending of the wire ends upon themselves; in case of bleeding, after removal of the tourniquet, from the line of incision or suture wounds, the introduction of stitches for the purpose of controlling the same; washing of the uterus with a strong antiseptic solution (sublimate, 0.5 per cent.), iodoforming the suture line, previously rendered entirely dry, and lowering of the uterus into the abdominal cavity. A toilette of the latter will then only be necessary if fluids have found their way into it, which may be easily avoided. The abdominal wound is to be closed without drainage, with silk button sutures (Seiden-Knopfnaethe). The line of incision is iodoformed, over which a thin adhesive plaster dressing is applied. As soon as the patient is placed in bed, an ice-bag is placed upon the abdomen and several injections of ergot should be made.

"7. The after-treatment should be as inactive as possible."

The Academy, I trust, will pardon the presentation of this lengthy translation from Sänger's essay. There are two reasons, however, for doing so. One is to do justice, if possible, to Dr. Sänger; the other is to bring the subject before you in an unadulterated form, without omissions, restrictions or criticisms.

Though it is five years since Sänger published his book ("*Der Kaiserschnitt bei Uterusfibromen nebst vergleichender Methodik der Sectio Cæsarea und der Porro-Operation. Kritiken, Studien und Vorschläge*

zur Verbesserung des Kaiserschnitts"), very little, as stated before, was heard of it in this country until the journalistic controversy of last summer between Dr. Sänger and Dr. Henry J. Garrigues. Sänger writes, and that with justice: "I regret most deeply that my book on Cæsarean section is so little known, especially among English-speaking physicians." No other act of Garrigues' could have added so much to the name and fame of Sänger, and brought the "Improved Cæsarean Section" at once so thoroughly and so broadly to the attention of the reading profession of this continent.

This is not the time or place, nor is it essential on this occasion, to cite from or sit in judgment upon this controversy. He who will take the pains to read it will, and those who have read it believe Sänger to be justly entitled to all to which he lays claim. The Sänger operation has been performed a number of times since then by several prominent obstetricians of this country, and the results (not yet published in detail) are very promising.

Permit me to tax your patience a moment longer, while I present to you the most recent statistics sent me by Dr. Sänger and Dr. Robt. P. Harris. The work done by the latter in this field will, I fear, never be fully appreciated by the profession. He wrote me September 30, 1887:

"There have been 73 cases of Cæsarean operation, including your own, in the State of Ohio, resulting in the saving of 9 women and 6 children. One child lived only a week (mother saved), and another two days (mother lost). There was a fatal case in Columbus in 1886, of which I trust you will be able to get the particulars, as I have not.

"Operations in the United States, as far as known.....	155
Of these there have not been published.....	65
" " " " been women saved.....	57
" " " " " lost.....	98
" " " " " children saved.....	57
" " " " " lost.....	98

"There were 3 operations last spring, saving 1 woman and 3 children. Of 10 hospital operations, 9 have ended fatally. In 1885 there were 5 operations in the United States, saving 1 woman and 1 child; in 1886 there were 4, saving 1 child only.

"The Sänger operations of 1886 saved 18 women and 22 children, under 22 operations and 16 operators, in six countries. I have records of 66 Sänger cases, not all complete as yet; 17 died out of 58. About 72 per cent. have been saved. Germany takes the premium."

December 15, 1887, he again writes: "Since the last of March there have been 9 Cæsarean operations, 5 of them since September 1, in this country. Four women are well, and 2 more may recover. All 9 children were extracted alive—1 died directly, and 1 of tetanus in thirty-six hours."

Sänger writes to me under date of October 21, 1887, that the statistics of his "own Cæsarean" section kept by himself furnish, up to the present, 76 cases, of which were saved 58, or 76.3 per cent; lost, 18, or 28.7 per cent.

Of these, 52 cases were operated upon in Germany, with 46 recoveries, 88.4 per cent., with 6 fatal results, or 11.6 per cent. If I understood Prof. C. D. Palmer correctly in his lecture the other day, Leopold, who has performed the operation the greatest number of times, has obtained a favorable result in over 90 per cent.

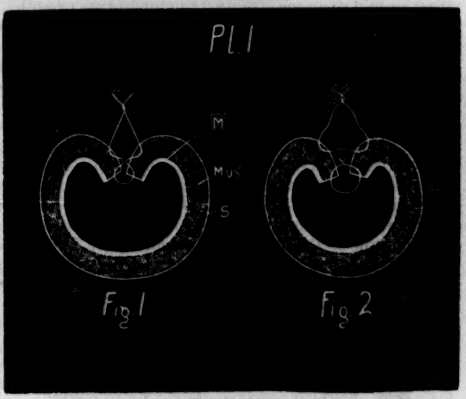


Plate I.—Fig. 1, Gussenbauer's intestinal suture. Fig. 2, Czerny's intestinal suture.

These are remarkable results, and the questions that present themselves are:

1. *Are these favorable results solely due to the manner in which the uterus is sutured?* Certainly not. But this seroso-serous suture, by bringing the peritoneal edges of the uterine wound into intimate apposition, creates a degree of safety never attained before and, in connection with asepsis, more experience and

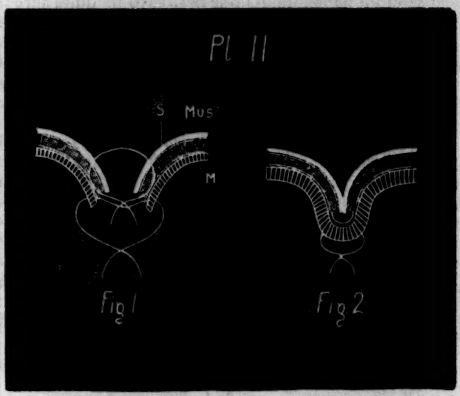


Plate II.—Fig. 1, Woelfler's intestinal suture before, and Fig. 2 after, closure.

greater skill, encourages an early operation, to all of which the remarkable record of successful cases may be attributed.

2. *Are the curtailed indications for Cæsarean section as taught and upheld heretofore, still binding? or have we a right to be more liberal, and increase the sphere of usefulness of this capital operation?*

Naegle and Greuser have divided the indications into:

1. *Absolute*, or when the fœtus cannot be delivered through the pelvis living or dead; and

2. *Relative*, or when the fœtus cannot be delivered at term without mutilation, and when we have to choose between cephalotripsy, embryotomy and Cæsarean section.

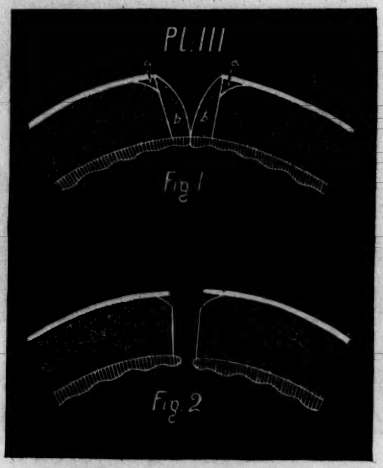


Plate III.—Uterine wound. Fig. 1 before, and Fig 2 after, resection of the parenchyma and the undermining of the peritoneal covering in womb.

Thus the absolute indications are well enough defined. The relative signs, however, remain to be determined, for it is here that authors differ widely,

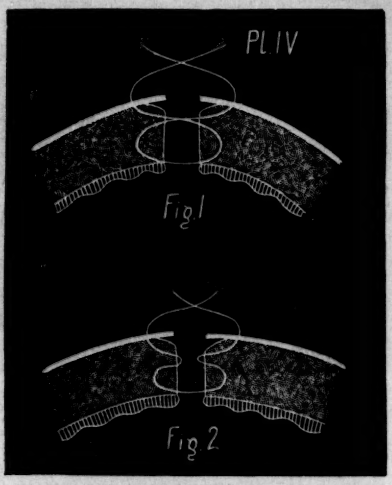


Plate IV.—Fig. 2, a suture analogous to that of Gussenbauer (Plate 1, Fig. 1). Fig. 1, the same, but sutures crossing each other.

and since the conjugate diameter at the brim has been made the special indicator for the justification of hysterotomy, I will cite the opinion of a few of the most prominent authors (older as well as more recent), to show how widely they differ:

Baudeloque	2.6	inch.
Jacquemier	2	"
Cazeaux	1.95	"
Tarnier	1.95	"
Depaul	2.34, 1.56	"
Guéniot	1.56	"
Joulin	1.56	"
Michaelis	1.83	"
Scanzoni	3.12, 2.65	"
Naegle and Greuser	2.51	"
Spiegelberg	2, 1.5	"
Barnes	1.4	"
Playfair	1.4	"
Heyernaux	1.85	"
Hubert de Louvain	2.73	"

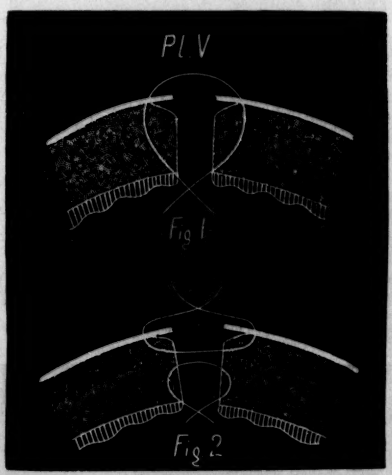


Plate V.—Figs. 1 and 2, a suture analogous to that of Woelfler (Plate II, Figs. 1 and 2); only applicable so far as it is possible to tie through the incision.

The fearful mortality attending Cæsarean section, and the more favorable results obtained by embryotomy, and especially by Pajots' method of cephalotripsy without traction, have justly induced the obstetricians to resort to these measures in preference to cutting through the abdomen. But in the light of the present glorious achievements by the Sänger operation, these figures may well be changed, and I would not be surprised, indeed I believe it quite justifiable, that a three-inch conjugate (and probably more if you please) an impacted head or shoulder presentation in which the child still lives and turning is impossible, excessive size of fœtus, mal-presentation, tumors not operable, certain cases of osteo-malacia, and other congenital or constitutional vices which doom the woman to death, Sänger's improved operation will be adopted by those well acquainted with and experienced in his method. In speaking of the success of Sänger's operation, (Par-

vin, *Science and Art of Obstetrics*, 86, p. 662) says: "Now if such success could be obtained by practitioners generally, ovariotomy upon the living fœtus would soon be unknown." Continuing (page 664): "We may justly hope that its extension will rapidly grow, and that it will meet with corresponding success."

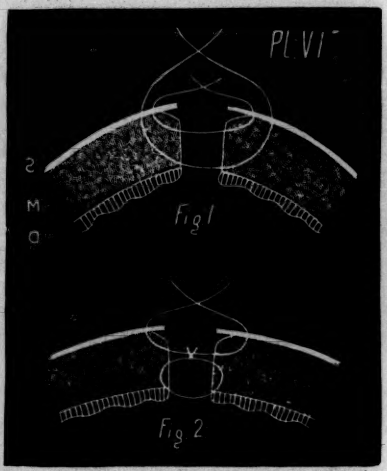


Plate VI.—Fig. 1, a double row button-suture; the deep seizes the whole uterine wall, excepting the decidua; the superficial is intended only for the peritoneal coat. Fig. 2, a suture analogous to Cæsrny (Plate I, Fig. 2), and the story-suture (Etagennaht) of Schrœder; the deep unites the muscularis, the superficial the peritoneum. S, peritoneum: M ,parenchyma; D, decidua.

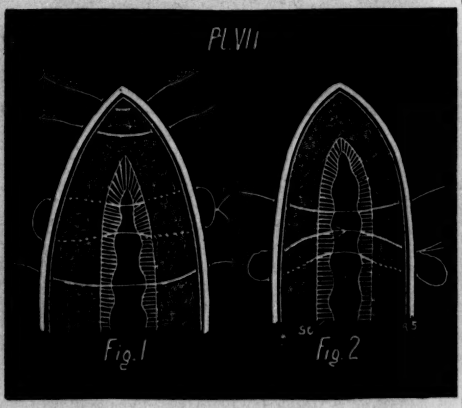
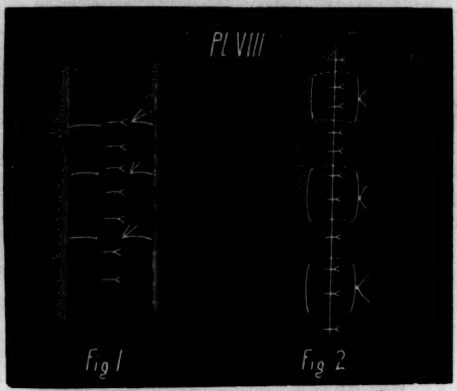


Plate VII.—Uterine sutures seen from infro nt. Fig. 1, a horizontal matress suture with superficial symperitoneal suture (Plate VIII, Fig. 2, when it is closed). Fig. 2, a vertical matress suture and superficial seroso-serous suture (Plate VIII, Fig. 1, the same when closed). RS, the space between peritoneum and parenchyma indicates the undermined portion of peritoneum; SC, decidua.

True, there are authenticated cases on record in which the classical Cæsarean section has proved successful, under unskilled and even unscientific management. Jacques Nufer, a swine herdsman, performed it on his own wife, successfully, in 1500. Sänger cites numerous cases in which the abdomen and womb were opened in the most bungling manner by careless and incompetent hands, and recovery took place. R. P. Harris published several instances (*Am. Jour. Obstetrics*, last volume) of "cattle-horn" cases, in which the fœti were torn from the womb and the mothers recovered. In our own State, the statistics of whose operation are poor, Lungren



(See Plate VII, Fig. 2.) (See Plate VII, Fig. 1.)

collected 13 cases (3 of his own), with 9 maternal recoveries and 8 living infants. Two of his operations were performed on the same woman, who still lives with both of her Cæsarean children. He is

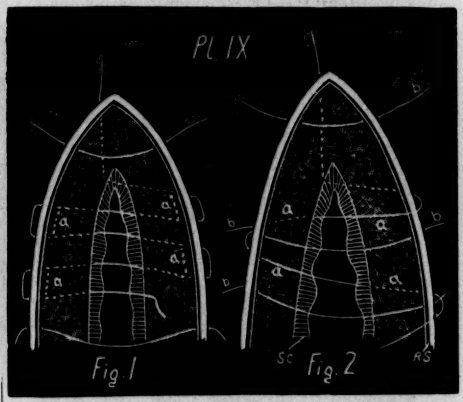


Plate IX.—Fig. 1, a continued horizontal matress suture with superficial seroso-serous suture. The peritoneum may be entirely avoided, as shown by the dotted lines, a a a a (Fig. 1, Plate X, the same when closed). Fig. 2, a furrier suture, which seizes the peritoneal edges alternately, in connection with seroso-serous button-suture, to unite the peritoneum (Fig. 2, Plate X, the same when closed). a a a the deep, b b b the superficial, sutures.

justly credited with having used the seroso-serous suture. But leaving out his own two cases of recov-

ery (the particulars of the other successful case are unknown to me), the favorable termination of nearly all of these cannot be explained upon any scientific basis, and must be placed in the category of accidents, and therefore cannot be compared with the

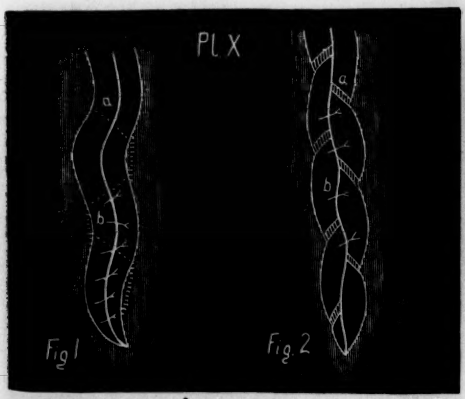


Plate X.—a, the deep, b, the superficial, sutures. (See Plate IX, Fig. 1. See Plate IX, Fig. 2.)

results following an operative technique suggested by experience, experimental research, scientific and logical reasoning.

Plate XI.—Represents the abdominal incision, sutures introduced and drawn out of the cut in loops. The line in the centre indicates the line of incision in the uterus. The dotted line marks the outline of the womb.

The marvelous success of Leopold proves beyond all doubt that Sänger's "New Operation" is correct in principle and perfect in detail; that it is destined to hold its place in obstetric operations; that its sphere of usefulness will be larger than that of the classical Cæsarean Section, and that both skill and experience are essential to its successful execution. Abuse will follow; but that is not the fault of the "New Operation."

In the face of the facts, arguments, and statistics presented, and in consideration of the great im-

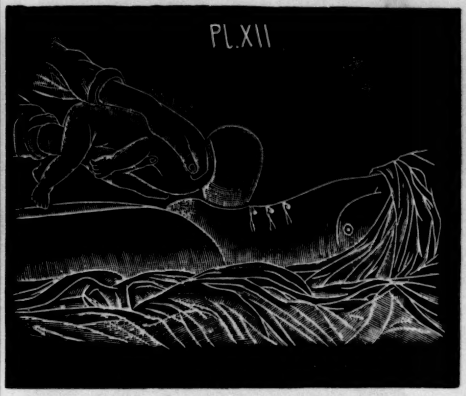


Plate XII.—Shows the stage of eventration, uterus having been withdrawn from the abdominal cavity during the delivery of the body of the fœtus and the suture (Plate XI) closed up.

portance the subject bears to the lying-in women, and the profession at large, I take the liberty, Mr. President, of urging the members of this academy, and, to whoever may chance to read this dissertation hereafter, that they give the "Sänger-method" of

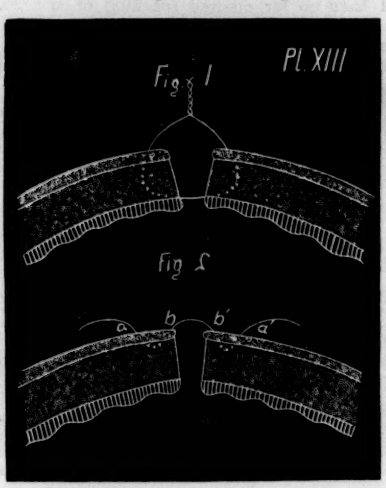


Plate XIII.—Shows the latest, best and most simple manner of uniting uterine wound. Fig, 1, the deep suture (silver wire or carbolized silk); Fig. 2, the superficial suture after the manner of Lembert, perforating twice on either side, a b and a' b'. (Fine silk or catgut.)

performing hysterotomy, at once that careful attention necessary for a perfect understanding and

thorough familiarity requisite for its successful performance. No one knows how soon he may be called upon to perform it. Let us think with horror of the statistics of our own State: seventy-three cases with the saving of but nine women, and only

Plate XIV.—Fig. 1, drainage-tube of Thiede. Figs. 2 and 3, drainage-tube of Schede.

eight children. This alone should be an impetus to every one to bestir himself, and study this vital question.

I have so far omitted speaking of the *Porro-operation*, and now make mention of it only to quote the indications for its employment, as given by Sänger.

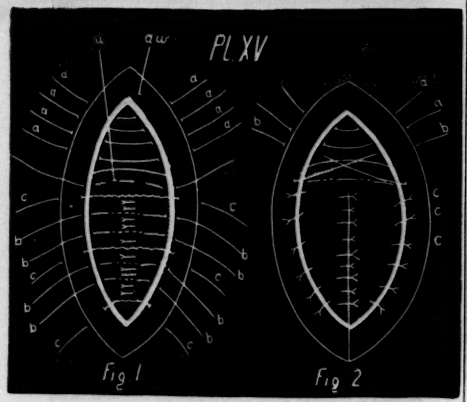


Plate XV.—Fig. 1 shows manner of suturing in cases in which it appears still possible that the uterine sutures may secure union; but if not, the peritoneal-parietal suture may be taken out and peritoneal cavity drained. U, uterus; aw, abd. wound; a a a, peritoneal-parietal suture; b b b, utero-parietal suture; c c c, abdomino-parietal suture over the utero-parietal suture. Fig. 2 shows sutures when by reason of infection, etc., it is necessary to treat wound openly; abdominal wound s united only by sutures a a and b b.

Indications for the Porro-operation:

"1. When the discharge of lochial secretions is rendered difficult or impossible *per vias naturales i.e.*, by stenoses and atresiæ of the cervix and vagina, or by tortuosity and compression of the soft obstetric channel, due to a tumor not belonging to the uterus."

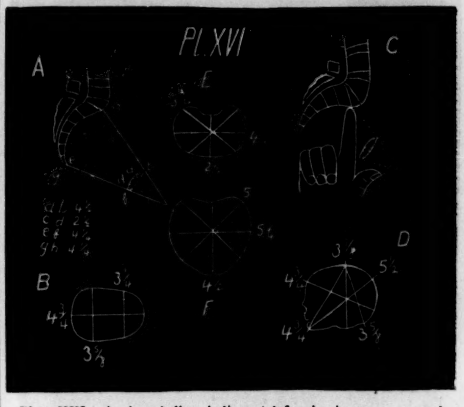
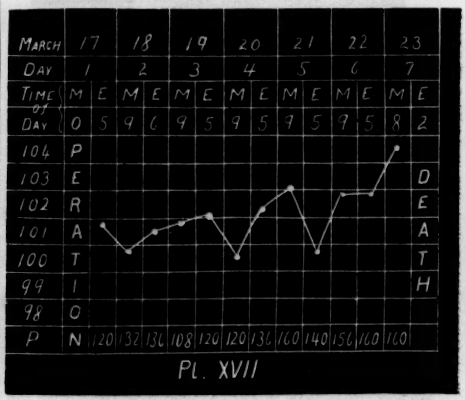


Plate XVI.—A, dotted line indicates deformity in case operated upon. B and D, diameters of the child's head. E, pelvic inlet of case reported. F, dotted line the same within natural sized pelvis. C, manner in which the conjugate was obtained.

"2. By pregnancy in the closed up half of a *uterus bicornis*, in which delivery is preferably effected by establishing an artificial opening towards the open half. (Strictly speaking, this is not a true Porro-operation, since the remaining half of the uterus may be again impregnated.)"



Temperature chart of case reported.

"3. When infection of the *corpus uteri* is evident."

"4. After repeated classical sectio-Cæsaria."

"5. By serious general osteo-malacia (?)."

Thus, from what we have learned by a careful study of the "Improved Cæsarean Section," it can-

not be denied that the Porro-operation has been severely, yet properly restricted, and will be resorted to only in very rare instances.

In conclusion, it may be proper to state, that no one regrets more fully than I do, that the case here reported was not a Sänger operation, *per se*.

My principal reason for not following Sänger was, that up to the time of the operation, indeed up to my correspondence with Dr. Sänger, I had failed to fully comprehend his method. I have given you a faithful description of the new operation and have attempted to explain the same by the subjoined drawings.[1]

THE SWEDISH MOVEMENT AND MASSAGE TREATMENT.

Abstract of a paper read before the Clinical Society of Maryland, February 17, 1888.

BY HARTWIG NISSEN,

DIRECTOR OF THE SWEDISH HEALTH INSTITUTION, WASHINGTON, D. C.; INSTRUCTOR IN GYMNASTICS AT JOHNS HOPKINS UNIVERSITY, BALTIMORE.

I am here to-night to tell you a little of what I know about "The Swedish Movement and Massage Treatment," and if some things should seem strange, or you should think that I have claimed rather much for it, I beg you to remember that *all* that I have to say is based upon *facts*, and that I am here not as a special agent for myself, but as one who wants to lay before you a clear and true representation of what has been done.

As Herodotus observed the curative effects of gymnastics on his own delicate health and thereby was brought to use movements in therapy, so did the Swede, *Pehr Henrik Ling*, in the beginning of this century, study the movement treatment, because he had cured himself of rheumatism in the arm by gentle percussions. Ling had been a fencing master and instructor of gymnastics, but now he studied anatomy and physiology, and the influence of the different movements and manipulations in different chronic diseases. He brought gymnastics into a system corresponding with the knowledge of physiology, and this is the reason why it is called "the Ling System," or the "Swedish Movement Treatment." By ardent study and labor, Ling succeeded at last in making his new ideas recognized, and in 1813 the first "College for Pedagogical, Military and Medical Gymnastics," called the "Kongl. Gymnastiska Central Institutet," was established in Stockholm at the expense of the Swedish Government. The principal studies for graduation are anatomy, physiology, pathology, hygiene, diagnosis, principles of the movement treatment, and the use of exercises for general and local development. Ling died in 1839. His pupils, Brandting, Georgii, Liedbäck and G. Indebeton, published Ling's theories. Hereby, and on account of the many foreigners who studied at the Central Institute of Stockholm, Ling's art soon became known in a great part of the world.

Mr. Joseph Schreiber, of Vienna, in his "Manual of Massage and Muscle Exercise," p. 21, says: "The most powerful impetus, however, given to the revival of mechano-therapy, originated with a Swede, the originator of the modern "movement cure," whose doctrines, spreading to England and to Germany, have after many decades, and in spite of being marked by some extravagancies, gained universal recognition."

Endowed with depth of thought as well as creative genius, fortified by scientific information, and sustained by an untiring devotion to his task, Ling was early led from result to result by a careful classification of movements, and by a scientific examination of their different results. Ling distinguished in the first instance between *Active* and *Passive* movements; *Active Movements* being such as the subject performs entirely by voluntary muscular contractions, and *Passive Movements* such as the subject takes no part in, beyond allowing the operator to *move* the whole or any portion of his body—as *flexion*, *extension* and *rotation*—and to *manipulate* it, as in *stroking*, *kneading*, *pressing*, *percussion*, *etc.* These simple movements Ling combines into *Resistive*, or *Duplex Movements*, viz.: *Active passive*, or "*concentric duplex*" movements, such as the operator resists, and *Passive active*, or "*excentric duplex*" movements, such as the operator overcomes when the patient resists. Duplex, because two individuals engage in it; concentric, because the patient's muscles have to overcome a resistance which prevents flexion—a movement toward the trunk; excentric, because the force acts in a direction away from the body.

These movements cause an increased flow of blood to the muscles and soft parts, increasing thereby the circulation and removing accumulation of tissue waste. They cause resorption of exudations, transudations and infiltrations, and a separation of adhesions in tendon sheaths and in joints. They increase the oxidizing powers of the blood. They relieve the congestion of the brain, lungs, intestines, uterus, liver and kidneys by increasing the flow of blood to the muscles. They stimulate directly the sympathetic nervous system, thus increasing secretion, and reflexly the activity of unstriped muscle fibre, and so relieve various functional derangements. And they educate morbidly affected muscles, to convert abnormal into normal actions, and to suppress useless movements.

Dr. J. Schreiber, in his book (page 67), says: "We understand by passive movements all movements performed by the physician upon the patient, the latter remaining passive. The following results are obtained:

"1. Extravasations occurring about dislocated joints are, by pressing and rubbing the tendons and ligaments in which they are embedded, finally liquefied, and thus more quickly absorbed.

"2. In stiffness of joints the contracted muscles and tendons are forcibly but gradually elongated, and any existing exudations or vegetations within the joints are disintegrated and absorbed.

"3. By the forcible stretching of the muscles their nerves are likewise stretched; molecular changes being thus set up in both.

[1] Plates XI, XII, XVI and XVII, my own; the rest taken from Sänger's book, "Der Kaiserschmitt," etc., 1882.

"4. Forced extension of the muscles causes pressure on their blood- and lymphatic vessels, thus accelerating the circulation.

"5. Finally, such muscles as have by rheumatic or neuralgic pains been kept in a state of inactivity, have some of their much-needed exercise restored to them. Passive movements thus form in certain diseases, as in neuralgia and rheumatism, the introduction, as it were, for the more painful active motions which have to follow."

Dr. J. Graham, "Treatise on Massage," page 23, says: In 1844 the Supreme Medical Board of Russia appointed two members of the Medical Council to inquire into the merits of movement and manipulation treatment as practiced by M. de Ron, one of Ling's disciples at St. Petersburg, who had been using it then for a period of twelve years. From the highly commendatory report of the councillors we quote the following: "All passive movements, or those which are executed by an external agent upon the patient, as well as active ones produced by the effort of the voluntary muscles, and the different positions with the aid of the apparatus or without it, are practiced according to a strictly defined method, and conducted rationally, since they are based upon mechanical as well as anatomical principles. *Experience teaches us the usefulness of the institution, as many patients thus treated have recovered their health after having suffered from disease which could not be cured by other remedies.*"

Before speaking about more details of this system, I must say a few words about what is meant by the word "massage." Dr. J. Graham says: "Massage —to knead or handle—is a term now generally accepted by European and American physicians to signify a group of procedures which are usually done with the hand, such as handling, manipulating, rolling, and percussion of the external tissues of the body in a variety of ways, either with a curative, palliative, or hygienic object in view. Its application should in many instances be combined with passive, resistive or assistive movements, and these are often spoken of as the Swedish movement cure. There is, however, an increasing tendency on the part of scientific men to have the word massage embrace all these varied forms of manual therapeutics, for the reason that the word 'cure,' attached to any form of treatment whatsoever, cannot always be applicable, inasmuch as there are many maladies that preclude the possibility of recovery and yet admit of amelioration."

In this I cannot fully agree with the author. Massage means *kneading*, and when we go so far as to say that massage means the handling and manipulation of the flesh as in kneading, pressing, stroking, tapping, etc., I think we have embraced all that can come in under this term. To say that a passive movement, such as flexion and extension, or even a duplex movement, is massage or *kneading*, is too much to say, and has been a source of great harm both to patients and to the original Swedish system, as I shall have occasion to show later on.

"Scientific men will use the word *massage* to avoid the word *cure*." If these men had read little about Ling's system they would not have found the word cure, as Ling called it "Sjukgymnastik," that is "gymnastics for invalids," or better, "the treatment of diseases by movements," which also embraces the different manipulations now grouped under the term massage. Rossback (Lehrbuch der physikalishen Heilmethoden, Berlin, 1882) calls it "Gymnastics and Massage." Schreiber's term is, "Mechano-Therapy." Rothstein, Neumann, Eulenberg and others call it "The Swedish Health gymnastics," but very few take to the term "massage" to mean both manipulations and active and passive movements. It is true that we frequently see "movement cure" on circulars and in some books, but the term is used purely on account of lack of knowledge and part on account of fraud. I should think that the most correct and all embracing term would be "*Swedish Movement and Massage Treatment.*"

Massage embraces the processes of kneading, pressing, stroking, rubbing, tapping, hacking, and percussion when applied to the muscles in question for the propulsion of blood, lymph, and exudations from the periphery toward the centre.

In Europe this is used, combined with movements, in local troubles, such as: Neuralgia, muscular rheumatism, sprains, stiffness of joints and tendons, cerebral congestion, chronic dyspepsia and constipation, chorea, writer's cramp, etc. Dr. Weir Mitchell, of Philadelphia, in his "Treatment of Nervous Diseases by Rest," has applied massage, as he says in his "Fat and Blood," page 71, "*to deprive rest of its evils.*" This massage consists of gentle but firm rolling, kneading, friction, etc., of the skin and muscles of the whole body in order to bring about a free circulation of the blood and thereby improve or maintain the nutrition of the muscles. No doubt this way of using massage in nervous diseases is of very great value, but all over the United States we find men and women pretending to give "massage" in the broadest sense of the term as used by Dr. Graham. These professionals claim to have received their training from Dr. Mitchell.

According to Dr. Graham's book, page 34, "Dr. Mitchell states over his own signature, that he does not teach massage." But suppose we admit that some of them have learned from Mitchell's masseurs, still, what do they know? How is it possible that a man who has been taught to use his hands only in a certain way for a special malady can know how to use them, and how and when to apply proper movements in all the different diseases which are treated by "Swedish movements and massage?"

Much experience and hard study is required in order, understandingly, to give a full treatment. The different manipulations may be for some persons easy enough to learn, but the active and passive movements so indispensable for the cure of certain forms of disease, require and exact knowledge of anatomy and physiology for their proper application and performance.

I will now in a few words describe the mode of treatment which Ling systematized. Ling distinguished between five different fundamental positions, viz.: *standing, sitting, kneeling, lying and hanging;* these he subdivided into a number of starting posi-

tions with the arms, legs, trunk and head, which combined in various ways make nearly 12,000 positions in which the different movements may be either taken or given. And so the number of movements may be said to be endless to suit each particular ailment.

The movements may be spoken of as: *Strengthening* movements, such as flexion, extension, torsion, etc.; *Stimulating* movements as, percussion, vibration, etc., *Quieting* movements, as rotation, friction, etc.; *Derivation* movements of the extremities; *Purgative* movements, as kneading, pressing and active movements on the bowels. Some movements have a special effect on the *respiration*, others on the *circulation, etc.*

To illustrate how these movements are applied in different cases let us take, for instance, a patient suffering from *anæmia*. If he is well enough to sit up, we will give him:

1. "Chest lifting," a respiratory movement; the chest is expanded, the inspiration becomes deeper and is followed by a stronger expiration. Thus a greater amount of oxygen is taken in and waste matter given off. This must stimulate the functions of the organs and thus accelerate the process of renewal and an exchange of material in all parts of the body.

2. "Foot rotation," to equalize the circulation by increasing the flow of blood to the feet.

3. "Stomach vibration," which has a direct effect on the stomach and will improve the appetite and the digestion.

4. "Forward arm rotation," a respiratory movement, which has a similar effect on the first one.

5. "Trunk rotation," which brings the muscles of the waist and bowels into play and acts on the circulation, especial in the portal system.

6. "Knee flexion and extension" with resistance. This has a strengthening effect on the flexors and extensors of the leg and promotes the circulation.

7. "Bowel friction," to promote operations of the bowels.

8. "Back percussion," which stimulates the nerve centres.

These movements can of course be applied to the patient in different positions according to his strength, and when the patient improves other and more vigorous movements are used. In a case of *constipation* a prescription of movements like the following would be most effective:

1. "Leg flexion and extension," an active movement under pressure on the sacral region and bowels. This movement brings into play the flexors and extensors of the legs and has a purgative effect on the bowels.

2. "Backward leg traction," a duplex movement, alternately from a standing position the patient resisting forwards. Here the muscles of the bowels, the flexors of the thigh and extensors of the calf are in action. Therefore this movement has a purgative as well as a derivitive effect on the organs of the pelvis.

3. "Forward trunk flexion," pressure being exerted on the sacral region and the bowels from a lying position— active movement.

4. "Trunk torsion," from a kneeling position—duplex movement.

5. "Trunk rotation," from astride, sitting position—passive movement.

The third, fourth and fifth movements bring into play all the muscles of the bowels, increasing the circulation of blood in the portal system; they have a good effect on the digestive organs and act purgatively in a measure.

6. "Breech percussion, deep," standing position—passive movement. This acts on the sacral nerves, and has a stimulating effect.

7. "Bowel kneading and friction," reclined position, with the muscles of the bowels perfectly relaxed—passive. This acts directly on the intestines and promotes the operation of the bowels.

8. "Vertical arm flexion and extension," sitting position—duplex movement. This has a strengthening effect on the muscles of the arms, chest and back, and tends to equalize the circulation of the blood.

In cases of *heart disease* movements must be given, which shall diminish the pressure of the blood and decrease the activity of the heart. Inspiration acts as a pump on the circulation towards the heart. Muscle contractions produce a pressure on the walls of the blood-vessels, whereby the blood is forced towards the heart; hence, respiratory and circulatory movements are here of great value.

Dr. Gustaf Zander, of the Mechanico-Therapeutic Institute in Stockholm, says: "In heart disease, movement treatment is an uninterrupted necessity, at least during the winter. It is a pity for any such patient, who has the opportunity not to use this treatment. It is astonishing what excellent effects, regular, gentle, but many-sided muscular exercises, have on diseases of the heart. Some of these when not too far gone, can be entirely cured, others can be stopped from further development, and all can be relieved."

In *scoliosis*, in which the muscles on the convex side are weakened and pathologically changed, and the muscles on the concave side normal; it is clear that the weakened muscles on the convex side must be strengthened and developed. According to Dr. T. J. Hartelius, the principal of the Central Gymnastik Institute in Stockholm, "The restoration of a pathologically changed muscle cannot be produced by mechanical extensions, but only by muscular exercise and electricity." "But," he says, "for the restoration of a curved spine extension is necessary. The question is, therefore, whether this can be effected by the organisms own remedies? This is easy enough to prove. In mild cases of lateral curvature, where there is not yet any deformity in the vertebræ, the spine is straightened at each extension of the back. By flexion to the convex side, the spine is not only straightened, but it can be bent so far as to display a curve to the other side. In cases where the deformity of the vertebræ makes a full extension of the spine impossible, it is still possible by its own strength to produce an extension in its highest degree. For instance, in a "Forward trunk flexion and extension" the patient stands sup-

ported on the thighs and bends forward; when he raises himself up the operator resists him on the neck. Or, in "Backward trunk flexion" the patient is lying on the front of his legs, and raises the back up backward.

These, and a few other active movements, can better than any other mechanical remedy, straighten out the curved parts. In a one-sided scoliosis, for instance, with the convexity to the left, "lateral trunk flexion to the left" may be given. The operator puts his hand on the highest point of the curve, and resists the patient when he bends down. This can be performed either with the patient sitting, standing, or lying on his right side. Several other movements are also given, with the view and intention of strengthening the muscles on the convex side, and straightening out the spine, and should be used according to the strength of the patient, and the particular shape of the deformity.

Dr. Schreiber (page 86) says: "The treatment of scoliosis by the Ling system, which has scored some of its greatest successes in this very department, requires, however, quite a special study, and can hardly be carried out without both apparatus and trained assistants." Dr. M. Eulenberg in "Die Schwedische Heilgynmastik, Berlin, 1853," says: "Ling's method is the only truly rational therapeutic means for the cure of chronic disturbances of motivity, such as result from spinal curvature, and for pseudo-anchylosis, the phthisical-tendency, pigeon-breast, peripheral paralysis, etc.

Even in cases of paralysis from lesions of the cord, it may still effect a cure, where all other measures, undertaken after the original disease has run its course, will be found useless. Ling's gymnastics have an even greater and more certain effect upon innervation and nutrition, than the common form of gymnastic exercises. Spinal (lateral) curvatures, resulting from faulty carriage (in consequence of a preponderance of muscular force on one side of the body), are nowadays never treated by any good orthopædist by any other means than the "Swedish system."

In various *joint* affections this treatment has been used with great success. If may be used to increase the circulation in and around a joint, or to promote absorption and to squeeze exudations out of the joint.

In treating a *sprain* of the ankle we begin with gentle centripetal frictions, commencing at the toes and gradually proceeding upwards as far as the painful spasm reaches, using the finger tips, then the whole surface of both hands. As the pain diminishes more and more force may be employed, and when the contraction has so far relaxed as to leave the joint movable, gentle passive flexion and extension, and rotation of the foot should be performed. After the second or third sitting the movement of the ankle-joint will generally be quite free and almost painless; then more force may be applied and active and duplex movements used. Usually the treatment is repeated three times daily. Provided there is no fracture, four to ten days is enough to cure the patient, and the sooner treatment is begun the quicker will be the cure. Other joints are treated on the same plan. But the hip and shoulder joints are more difficult to treat, and require a much longer time in order to produce a cure. And so on, each different disease has its own peculiar treatment.

It may be stated as a fact, that not only in the Central Institute in Stockholm, but in a number of Swedish movement institutions in many parts of Europe, that the following diseases have been treated successfully according to this method: Chlorosis, anæmia, scrofulosis, scorbutus, different neuralgias, rheumatism, gout, different venous congestions, adhesions of the pleura, emphysema, hysteria, hypochondria, general nervousness, insomnia, epilepsy, paralysis, chorea, writer's cramp, bronchial catarrh, heart diseases, dyspepsia, constipation, hyperæmia of the liver, paralysis of the bladder, disordered menses, prolapsus and adhesions of the uterus, round shoulders, chicken-breast, scoliosis chronic joint diseases, stiff and sprained joints and tendons, hydrarthus, muscular atrophy, and a few others.

After what has been said, it may be easly understood that it is absolutely necessary that the operator should not only be fully acquainted with the movements and their uses in different cases, but should also have a full knowledge of anatomy and physiology, and of the exact character of the disease which he is to treat. Still it has happened several times that I have been called in by physicians to treat some of their patients, and when I have asked what the trouble was, I have been told that it was not my business to know.

It is coöperation between the medical profession and the gymnastics, which is desirable and necessary in order to produce the best results.

[The author then gave a number of cases, illustrating the beneficial effects of massage and movements.]

The following are a few extracts from reports of the Swedish Movement Institution in Bremen:

"Of ten digestive disorders, constipation, cardialgia, flatulency, dyspepsia: six were cured, three greatly improved and one improved.

"Of fifty-nine spinal deformities: twenty-three were cured, seventeen greatly improved, fourteen improved and five still under treatment.

"Of six cases of muscular weakness: five were cured and one greatly improved.

"Of eight rheumatic disorders: seven were cured and one greatly improved.

"Of thirteen sprains, wrist, finger, knee and ankle being involved all were cured in from four to twelve sittings."

The Swedish movement and massage treatment is well worthy of adoption by the medical profession in the United States.

WEICHARDT (*Präger medicinische Wochenschrift*) has employed an ice-bag wrapped in flannel, laid over the spleen in typhoid fever, and thinks that a reduction of temperature and a hindrance in the development of bacilli resulted.

ON THE IMPORTANCE OF PRIMARY SUTURE OF DIVIDED NERVES, WITH AN ILLUSTRATIVE CASE OF SUCCESSFUL SUTURE OF THE MEDIAN AND ULNAR NERVES.

Read before the Philadelphia County Medical Society, March 14, 1888.

BY CHARLES B. NANCREDE, M.D.,
OF PHILADELPHIA.

Although I have a most profound faith in the *vis medicatrix naturæ*, I still think that Dame Nature should always have fair play in her battle with injury or disease, and this she certainly fails to receive at the hands of too many practitioners.

In a paper published some fifteen years ago I contended that if, with such vascular structures as those of the face, which certainly would unite sooner or later in some sort of fashion, we habitually resorted to suture, merely for cosmetic effects, we were all the more bound to do so for such avascular structures as tendons, which, if they failed to heal well, much more if no union was secured, must entail disability or total uselessness of a member. Now-a-days a surgeon who should fail to suture a divided tendon would be considered derelict in his duties. In like manner, I trust that in the near future the general practitioner will be so impressed with its importance that he will consider that his duty is unfulfilled until he, or some surgeon summoned by him, has sutured any divided nerve.

It is needless for me to dilate upon the evils consequent upon the abolition of function of an important nerve, but I would recall to your minds cases which must have occurred in the practice of most of those present, where divisions of even such small trunks as digital nerves have resulted in troublesome ulcerations, causalgias, etc.

Doubtless the indifference of practitioners to wounds of nerves; or, more strictly speaking, their inclination to "leave them to Nature," has arisen from two causes, viz.: 1, the fear that suturing might in some way determine tetanus; and 2, the well known fact that nerves divided or even excised with the avowed intention of abrogating their function, too commonly reunite.

The first cause should not deter us, as we now know that a suture, *per se*, can never originate tetanus; while as to the second objection, certain facts which I shall submit for your consideration warrant the conclusion that traumatic divisions of nerves, unless effected by a clean cut—or perhaps ball wounds—involving solely the nerve and little, if any, of the contiguous structures, differ so materially from those purposely effected by the surgeon's knife, that conclusions derived from the result of neurectomies cannot safely be applied to accidental divisions of nerves.

Besides, granting that reunion will occur without suturing, as a stitch can do no harm, why not use one, since it will at least conduce to a more rapid resumption of function? While primary union of nerves with immediate resumption of function—*i. e.*, in a week or ten days, is a surgical rarity, yet it does at times occur, and would doubtless be of more frequent occurrence, if sutures were the rule and not the exception.

My aim in this brief note is merely to call your attention, as general practitioners in whose hands many of these cases will fall, to the *duty* of suturing divided nerves as a routine practice, just as you would tie arteries, and to describe a simple, effective method of carrying out the indication.

A critical examination of the histories of nearly all exsections of nerves where reproduction has occurred, will show that they were removed either from a bony canal or from an intermuscular space in which they normally laid, *with the minimum* of injury to the surrounding tissues. Moreover, even when their ends have been turned back and sutured in position or even buried in the surrounding tissues, they have been so secured in the same intermuscular space which the nerve normally traverses. In other words, the bony canals and the intermuscular spaces likewise act as moulds which direct the course of the reparative material from the proximal to the distal end of the severed nerve.

In extensive wounds, however, this condition does not obtain. Intermuscular spaces are dislocated, large masses of scar tissue are formed, so that, instead of the new nerve-tissue being *compelled* to grow in only one, and that the right direction, it has too often an inseparable barrier interposed, and union fails.

In the case which I now show you,[1] the proxima ends of the ulnar and median nerves were directed at right angles to their intermuscular space, and would have been infallibly fixed between the ends of the torn muscles in a dense mass of scar tissues, resulting in permanent loss of power of the member. In the seventh month after suture—*i. e.*, the usual period required for the degeneration and regeneration of a nerve, first sensation and then motion returned, until now, although the functions of the member are not perfect, the boy can earn his living, and do nearly all that can be effected by a normal hand and forearm.

Further quotation of my own cases or those of other surgeons seems hardly necessary, and such good results as I here show you have been frequently reported.

Finally, how should the sutures be passed and what should their material be?

Fine aseptic catgut passed by means of an ordinary sewing-needle is to be preferred, but fine aseptic silk can be used, and I myself have resorted to this in an emergency. Should the nerve be *very* much lacerated and frayed out it may, perhaps, be sometimes proper to cut off a portion to gain a clean surface, but this is rarely desirable. The needle should be passed from below upward through the proximal end of the nerve at one border, across, and then passed from above downward near the opposite

[1] In this patient the brachial artery was also torn through, leaving only a bridge of muscle and skin through which collateral circulation could be carried on. The deficient blood supply possibly explains the failure of the recovery of power in the interossei muscles, although other of the intrinsic muscles of the hand which are supplied by the ulnar nerve contract well.

border, entering the needle from ⅛ to ¼ of an inch from the cut end, according to the size of the nerve. The needle must now be passed from below upward through the distal portion of the nerve at the border corresponding to the last passage of the needle through the proximal end across, and made to pierce the nerve from above downward, when the suture will be found to correspond to the free end of the thread in the proximal piece of nerve.

Gentle traction with an appropriate position of the member will, by the tying of one knot, accurately approximate the nerve ends; in a word, by this simple method all the advantages of the two separate sutures commonly recommended are obtained with a far greater degree of security. I need not say that the strictest asepsis should be secured, which is easy enough provided the wounded part, the surgeon's hands and his instruments be strictly cleansed, and the wound be freely irrigated with the bichloride and tartaric acid solution. If the surgeon gets an uncontaminated wound, it is his own fault if he has suppuration, and even with the ordinary run of accidental wounds, if he will thoroughly scrub his hands with a nail brush and hot water, and likewise so treat the parts surrounding the wound, pour boiling water over his instruments, without any further antisepsis, in most cases healing without suppuration can be secured, while the omission of these details will mar results with gallons of mercuric solution flowing over the wound.

MEDICAL PROGRESS.

SUBCUTANEOUS SEPARATION OF TRACHEA FROM LARYNX.—At the Versammlung Deutscher Naturforscher und Aerzte last September, NOLL, of Hanau, reported the case of a workman who received a severe blow on the front part of the neck from a piece of machinery. The skin was not wounded, and only a little blood was coughed up. The neck was soon very much swollen, and attacks of suffocation soon came on. On making a tracheotomy Noll found that the trachea was separated from the larynx, and very much retracted, and that the cricoid and thyroid cartilages were fractured. The trachea was drawn up and sutured to the larynx, and a cannula was placed in the passages. Later it could not be removed because it was held in by a cicatricial contraction. The usual methods of dilatation failed, and a laryngo-fissure was made, in which a Dupuis's cannula was worn for nine months. The trachea and larynx are now grown together. The patient is in good condition, but his voice is hoarser than before.—*Deutsche med. Wochenschrift*, No. 52, 1887.

PERSONAL HEALTH-RULES IN TIME OF CHOLERA.—SANITÄTSRATH DR. PAUL SACHSE, of Berlin, acting on what he believes to be a well-grounded supposition that cholera is due to the cholera bacillus, has made out a list of personal health-rules to be freely distributed in time of cholera, so that "every one can carry a copy in his coat-pocket, and hang one on his mirror, or on the wall like a calendar." The rules that he advises are as follows:

Cholera is caused by infection with the microscopic organism called the comma-bacillus, on account of its peculiar form in cholera. These get into the human intestine, increase rapidly under favorable circumstances, and cause the peculiar symptoms of cholera. This begins always with an apparently harmless diarrhœa, which continues for several hours before the disease breaks out with force, and becomes dangerous to life.

The possibility of infecting one's self in time of cholera with that bacillus is increased a thousand fold by assemblages and intercommunication of people. The outbreak of the disease is favorably influenced by everything that causes any stomach or intestinal affection.

Since we have no absolutely certain means of controlling the disease after it has broken out, we should especially beware of becoming infected, and should take all precautions to kill or at least render as harmless as possible the cholera germ before it gets into our bodies, and by a regular mode of living and prudent deportment avoid anything that can disorder the digestive apparatus.

Since the cholera germ gets into the stomach through the mouth, and from the stomach into the intestines, we should take care:

1. To take only cooked food and drink. This is the most important rule. Even the washing, rinsing, and bathing water should be free from germs, and the water from the wells should never be used, but only that from the city pipes.

2. To keep the body clean, and especially the hands, by frequent washing, especially before meals, and this should be done with disinfecting solutions, such as a 5 per cent. solution of carbolic acid (or a ⅓ per cent. solution of sublimate), and of this in time of cholera at least a quart should be used for washing the hands.

3. To live judiciously and carefully in time of cholera, and

a) Not run away!

b) Not to harbor people from cholera places.

c) Not to visit a house in which there is cholera.

d) Still less eat or drink anything in such a house.

e) Especially, to take nothing, food, linen, laundry, playthings, or anything else, from house in which there is cholera.

f) To avoid in every way anything that may disturb digestion; therefore:

Avoid taking cold, and sudden cooling off after being heated.

Do not sit up late at night with friends (drinking cold beer, for example).

Do not wear clothing that is very thin, and do not take off underclothing suddenly.

On no account bathe in running water. Water courses often bear the germs of cholera.

Avoid collections of people, fairs, festivals, etc. of every kind.

4. All kinds of food are to be avoided that may cause catarrh of the stomach and intestines; so also, over-eating and over-drinking are to be avoided.

Every one should take the greatest precaution with regard to what comes into the house.

What may one eat and drink? What is forbidden? What allowed?

FORBIDDEN!!	ALLOWED.
Unboiled water!	Boiled water, with cognac, arrac, or red wine.
Raw milk and raw cream, and sour milk - and whipped cream!	Good soda or seltzer water, and natural mineral waters.
Butter and buttermilk!	Red wine.
Freshly baked bread!	Good lager beer.
All cold soups.	Coffee, tea, and cocoa.
Raw meat.	Baked bread must be heated for at least ½ hour in the house before it is used!
Cold, cut meat that has stood for a long time.	All hot well-cooked soups.
Salads of every kind.	All hot (boiled, stewed, roast) meats.
Mayonnaise and crêmes.	All cooked vegetables (potatoes, rice, maccaroni, asparagus, green peas, cauliflower, etc.)
Raw fruit and unfermented fruit-juices.	Freshly cooked, warm compotes,
Cheese.	Eggs, and food made of eggs.
Cookies.	Puddings.
Ice.	

GOOD DAILY DIET.

Morning. 1st. Breakfast: Coffee, tea or cocoa (with or without well-boiled milk) eggs, bread (that has been well heated and dried in an oven or stove for ½ hour [in other words, bread that has been cooked a second time]) *without* butter.

2d. Breakfast: Boullion with egg, bread as above, warm meat, wine.

Noon meal: Hot soup, boiled or stewed meat, roast meat, vegetables, fresh cooked compote, red wine or good beer.

Tea: Coffee or tea.

Supper: Tea, or soup made from the meat left over from the noon meal, with the morning's bread, or warm meat. Wine or beer as above.

5. Every irregularity of the body should be most strictly guarded against in time of cholera. Apparently slight diarrhœa should not be neglected, but a physician should be consulted immediately.

Sachse suggests that in case of threatened invasion of cholera these rules should be printed in the newspapers, journals, etc., in addition to being printed on slips for public distribution. [The more important parts of these rules should be printed in bold black-faced type. The large foreign element in America would render it necessary that these rules be printed in other languages than English. For the German, the rules may be copied *verbatim* from the original]. —*Deutsche medicinische Wochenschrift*, December 22, 1887.

CHOLECYSTOTOMY WITH RECOVERY.—On February 14, M. Polaillon reported to the Academy of Medicine of Paris a case of cholecystotomy by M. TERRILLON, that was followed by recovery.

The patient was a woman, æt 24, who had had no previous liver trouble, until she noticed a tumor in the right side. On examination M. Terrillon made out a tumor, below the border of the ribs, that extended to below the umbilicus. The skin was normal, the umbilical cicatrix regular, and there was no enlarged subcutaneous veins. Palpation showed the tumor to be as large as the head of a fœtus, tense, elongated vertically, smooth, and very movable transversely. It did not appear to follow the respiratory movements. Its extent was easily made out by percussion. Its dulness was coextensive with that of the liver. In other respects abdominal percussion was normal. There was no icterus, no pain, and no serious inconvenience of any kind. There was some dyspepsia and emaciation. The urine was normal. It was evident that the tumor was connected with or adherent to the liver. No exploratory puncture was made, but Terrillon determined to make an exploratory laporotomy.

Operation on November 23, 1886. A median vertical incision was made, about 4 cm. long, and afterwards enlarged to 8 cm. When the abdomen was opened the lower border of the liver was easily recognized, since it was lower than normal. At the level of the lower border, and attached to the inferior face, was an elongated tumor, which descended very low, had bluish walls, was very fluctuant, and of a cystic appearance. The finger introduced into the wound showed that the tumor was a distended gall-bladder. Puncture with a capillary trocar gave issue to a liquid as clear as water, but a little thicker, and the last drops of which were of a milky whitness. It was then found that in the gall-bladder was a gall-stone as large as a cherry. The bladder was now drawn partly out of the abdominal wound, and then opened. Its walls were very vascular. Hæmorrhage was guarded against by forceps, and the cavity was explored.

The first calculus found was easily extracted, though it was adherent to the bladder by a thin filament. The finger carried into the bladder then found, at the far side, the summit, of the cavity, a second calculus imbedded in the mucous membrane. It was so deeply imbedded that, at the distance it was from the opening, it was impossible to detach it.

The bladder was then drawn further out, so as to lessen the depth of the cavity, when the stone was removed in fragments by means of forceps.

Having resected a portion of the base of the bladder, the operator sutured it to the abdominal wall, making a large biliary fistula in which two large drains were placed, and a dressing then applied.

In about a month the fistula was so far closed as to admit only a very small filiform bougie. Bile flowed abundantly from this orifice, generally between 9 P.M. and 2 A.M.—about four hours after the last meal. Two cauterizations with the thermocautery caused the fistula to close completely, two months after the operation. Meanwhile the patient had gained flesh, and was completely cured.

In commenting upon the case M. Polaillon says that, generally, the most favorable incision for cholecystotomy is one following the external border of the rectus muscle. But in order to have more room one must sometimes add to this a more or less transverse incision a little below the border of the

costal cartilages. M. Terrillon's incision, however, was for an exploratory laparotomy.

Opening of the gall-bladder may give rise to hæmorrhage, which must be controlled by hæmostatic forceps, or to extravasation of bile, which must be prevented at all hazards by drawing the bladder out and protecting the peritoneum by aseptic sponges. Suture of the abdominal wall completes the operation in cases in which there is no calculus. When a biliary fistula is established the more pressing danger is passed, and intraperitoneal rupture of the gall-bladder is prevented.—*Bulletin de l'Académie de Médecine*, No. 7, 1888.

TREATMENT OF MEMBRANOUS ENTERITIS.—DR. W. A. EDWARDS, of Philadelphia, in an article on membranous enteritis, says: We may consider the treatment under two headings: the prophylactic and the active, or that which is appropriate during an interval or remission, and that which will resort to during an exacerbation. It is during the remissions or intermissions that we can hope to do more for our patient's permanent good than during an actual attack; it is at this time that diet, regimen, and hygiene are indeed the sheet anchors. A careful supervision must be had of the patient's daily life, all sources of irritation are to be removed, as hæmorrhoids or uterine disease. Easily digested or even pre-digested food should be supplied, and care should be taken that undigested particles of food are not irritating the intestinal canal. As constipation usually exists, sometimes to a most stubborn degree, mild saline laxatives are usually most efficacious, or enemata may be resorted to.

Exercise for those who can stand it is of paramount importance; this, if possible, should be out of doors. Dr. Fowler most aptly says, he who stints himself in the drinking of water is dirty inside, and he also tells us that we must drink between seventy and seventy-five ounces of water per day in order to make up for the amount which is excreted by the lungs, skin and kidneys, amounting to ninety ounces a day; with the solid food we get but about fifteen ounces. Very few persons at home drink as much as that, but should they go to any of the numerous springs, in which our country is so peculiarly rich, drink five pints of water per day, lead a regular outdoor existence, breathe pure air, as many of our springs are situated in most beautiful mountain regions, where the life spent out of doors is most beneficial, the patient will be improved in health, independently of any mineral agent whatever in the water. Unfortunately, however, all of our cases will be unable to avail themselves of a course of treatment at the springs, but as there is no doubt that most of the natural mineral waters preserve their value for a long time, we can put patients through a thorough course at their own homes with the additional advantage of having the case under our own supervision.

During the acuteness of an attack opium will often be found necessary to afford relief, and possibly to check excessive secretion or hæmorrhage. Belladonna in the form of the extract, Dover's powder, subnitrate and subcarbonate of bismuth, together with local counter-irritation, all tend to abort the paroxysm, or, at least, to shorten its duration. The following remedies have been suggested: arsenic, copaiba, bromide of potassium, nitro-muriatic acid, henbane, vegetable infusions, prolonged counter-irritation, electricity, turpentine, iron, cod-liver oil, oxide or nitrate of silver by mouth or by high injections, chloride of ammonium, sulphate of zinc, bichloride of mercury, chlorate of potassium, oxide of zinc, blisters, warm water enemata, nux vomica, ergot.—*American Journal of the Medical Sciences*, April, 1888.

LACTIC ACID IN THE DIARRHŒAS OF CHILDREN.—DR. G. HAYEM, more than a year ago, called attention to the remarkable utility of lactic acid in the diarrhœas of children. Recently, in a communication to the Academy of Medicine (*Revue de Thérap.*, February 15), he has renewed his suggestion, and presented new evidence of the value of the remedy. He finds that better results are had from larger doses than he formerly advised. In the more severe cases he has administered a 2 per cent. solution up to twenty teaspoonfuls in the course of twenty-four hours. The formula employed by him is the following:

Lactic acid (pure)	℥ss.
Syrupi	℥j.
Water	℥iij.

The strength of this is about one minim to the teaspoonful. The quantity given will vary with the age of the subject and the nature of the attack. M. Sevestre, one of the physicians to the Children's Hospital, confirms the statements of Hayem regarding the therapeutic power of the remedy in question, and he also finds that a considerable quantity is required to effect the best results. The latest experience demonstrates that a teaspoonful of the 2 per cent. solution should be given every five minutes in the worst cases, and from this up to a teaspoonful an hour; the amount required varies with the conditions present.—*American Journal of the Medical Sciences*, April, 1888.

ARTHRECTOMY FOR WHITE SWELLING OF THE KNEE.—In the Société de Chirurgie on March 7, M. Chauvel reported four cases, operated on by DELORME, of Val-de-Grâce, in a period of five months. The patients were cured, two with fistulæ, and two completely. In the latter the result seemed to be most satisfactory, but in the others, in spite of removal of all fungous synovial tissue and all the ligaments, the cure was not complete. M. Chauvel had seen one of these cases, and thought that surgeons should be very careful about operating on patients more than 40 years old. TILLAUX thinks that when the lesion is limited absolutely to the synovial membrane, arthrectomy is indicated, especially in children, in whom resection is a cause of arrest of development of the limb. [In the opinion of many good surgeons, a fistula will not remain if the tuberculous material is completely removed].—*L'Union Médicale*, No. 33, 1888.

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ANATOMICAL SCIENCE IN THE DISTRICT OF COLUMBIA.

House Bill No. 5040, for the promotion of anatomical science and to prevent the desecration of graves in the District of Columbia, was discussed in the House of Representatives on March 26, and will, we learn, come up for final action on April 9. The Bill is not peculiar in any respect, and differs but little from those now in force in most of the States in which there are medical colleges. It provides, briefly, that the bodies of such deceased persons as are required to be buried at public expense shall be delivered to the medical colleges of the District of Columbia, under certain conditions; among which are, that the person thus dead has not requested burial, that public notice shall be given of such death for forty-eight hours previous to delivery to the colleges, and that the person was not an honorably discharged soldier or sailor or member of the U. S. Marine Corps, and that the colleges must bear the expenses of the transfer of the bodies.

At first sight one would not suppose that it would be a difficult matter to have such a wise and necessary bill pass the House of Representatives. The ten pages of the *Congressional Record*, of March 27, in which the discussion on the Bill is printed, show that objections can be and are raised where there is really no room for objections. But let us notice these objections more closely.

The *first* objection was that it was legislation against the poor. That is based upon the assumption that all the unclaimed bodies, and all those that are to be buried at the public expense are those of poor people, and leaves out of sight the fact that it is just as easy for a poor person to request burial as for an unknown millionaire to do so. In fact, the clause, "such deceased persons as are required to be buried at the public expense" is a leveling clause; it effectually and absolutely shuts out any idea of class legislation. And more than this; it assumes, what is true, that an unclaimed body, and that of a person that has made no request concerning his remains, is in reality the property of the State, and that the State has a right to utilize for the best interests of the public. The State may bury or cremate such a body, as it sees fit; or it may hand it over for proper and legal dissection if the public interests are best subserved in that manner. Of all bodies, those that "are required to be buried at the public expense" are *the* ones to be handed over to the dissecting-rooms in the interests of the public and of humanity.

The *second* objection was that the Bill would not prevent grave-robbing. Aside from the fact that a punishing clause for grave-robbing was added to the Bill as an amendment, it would be extremely difficult to find such practice in existence when bodies could be obtained more easily, more cheaply, and with no risk to anyone of being shot or otherwise injured while robbing a grave.

Third objection: "Human dead bodies are sacred, and should not be mutilated except for necessity.' In the sense in which the word is used here, dissection is not mutilation. Medical students do not tear the limbs from a dead body from mere wantonness. Each student knows that he has to learn the anatomy of the human frame, and that no material must be wasted. Such "mutilation" as is done in dissecting rooms is "for necessity," and it may be, when the student shall hold in his hand the very life of a sick or injured human being, for *dire* necessity. None of the "sacred rights" of a dead body are violated in a dissecting-room. Even when the grave is robbed, it is not the rights of the dead, but of the *living*, that are violated. And while it is a well-settled principle that there is no such thing as property in a dead body, civilized Governments recognize that it is a matter of public policy to allow a right in so far that friends or relatives may claim a body and decently dispose of it. Mr. McAdoo of New Jersey, was the author of this objection, and he also said: "Science, in a utilitarian age, selects its victims by reason of their poverty. . . . This Bill, with a sort of refinement of cruelty, prescribes that persons dying in the almshouses or asylums, unless of their own accord they request the privileges of a Christian burial, shall

be handed over to the savage, soulless science of the medical schools." Inasmuch as a dead body—after death—can be neither a victim of anything, nor have poverty nor riches, it is somewhat difficult to see the force of these words. And under this Bill, science does not select its material by reason of "poverty," but because there are no friends to claim that body, because the owner of the body did not, before dying, request burial, and because it is necessary for the health and life of all the millions of this country, alive and yet to be born, that some such material be at the command of "the savage, soulless science of the medical schools;" and from considerations of public policy and public interests, it is better to take the material mentioned in the Bill than any other—certainly better than to have graves robbed of their contents.

"Imagine for a moment," says Mr. McAdoo, "a poor, homeless, friendless, suffering man, in the very throes of dissolution, his faculties deserting him, the earth and its ties receding, and just as he is about to penetrate the veil of the tremendous future, he is obliged, in order to preserve his body, the temple of his soul, from a dissecting-table, to collect his thoughts and cite to the attendants, if any there be, an act of Congress passed for the District of Columbia . . . asking that his body may not be handed over to the surgeons to be mutilated after death." It is very difficult to imagine any such thing, if we remember that all the man has to do is to say or indicate that he wishes his body to be buried. He need not spend a moment's thought on Congress or any of its acts, or on the District of Columbia.

The member from New Jersey says further, in reply to a question as to the necessity for subjects for dissection: "I do not know. They have dissected so many and for such a long time, and there have been made such perfect charts and casts showing the whole science of anatomy, that it would seem scarcely necessary that this process of dissecting bodies should continue. . . . from an unprofessional view I do not see the necessity of continuing it further. . . . Science will find means to disseminate itself." It is somewhat difficult to regard anatomical science as a kind of ferment or yeast that can enter a given number of medical students and leaven the whole by a process of self-dissemination. Science cannot always disseminate itself without material and assistance; and anatomical science is now before the House of Representatives asking for a legal and unobjectionable means of disseminating itself by the passage of this Bill. In so far as the dissections that have already been made, and the charts and casts can take the place of dissections, and as regards the doubts of any further necessity for dissections, it may be said that the same argument may be used for the entire abolition of Congress. There are, apparently, laws, acts, and statutes enough to last the country for several centuries. Why not govern the country with these for awhile? Why should school-children be made to draw maps, seeing that maps and globes are already in existence? The absolute necessity of anatomical study by means of dissections is so apparent that it would be a waste of time to discuss the matter. We sincerely hope, for the sake of his personal comfort, health, limbs and life, that Mr. McAdoo may never fall into the hands of a doctor who has learned his anatomy from charts and casts.

Fifth objection: "The Bill throws the burden of securing his body from dissection upon the person about to die." After the person is dead what difference can it make to him that his body is in a dissecting-room? The Bill, and the general custom of handing dead bodies over to relatives and friends, are for the benefit of the *living*, not of the dead. It makes no difference to a dead man what becomes of his body, and if he have no friends no one's feelings and sentiments are hurt if the body be sent to a dissecting-room. Such a bill as the one under consideration is an act for the benefit of the living in two ways: It gives assurance to people that the graves of their dead friends and relatives are not violated; and it provides for the living that come under the care of the doctor by giving the medical students the means of learning by actual dissection the structure of the human body. Such knowlenge cannot be learned in a practical way, nor for practical purposes, from any charts or casts. If it could it may be said to be a matter of certainty that dissection, which is not a pleasant duty, would not be practiced.

Sixth objection: "Why should this American Congress suspend the consideration of more important measures and come to a dead stop in order to enact a law of this character?" For the simple reasons that the District of Columbia is under the direct control of the American Congress, and that such an act is a necessity for the inhabitants of the District, as well as for the medical colleges. To enter one of the medical services of the United States the candidate must pass an examination in practical anatomy. In refusing to pass this Bill, therefore, Congress will simply legislate against all students of medicine in the District of Columbia, unless they are allowed to continue to receive their dissecting material from grave-robbers. It would be another case of "bricks without straw." The civilized Governments of the

whole world have long ago recognized the necessity for furnishing dissecting material to medical students. Let us at least keep abreast of the march of civilization. The laws punish a doctor for any mishap arising from his negligence or ignorance, if suit be brought. And the laws should remove all obstructions in the way of the medical student's obtaining a proper and scientific knowledge of his profession. The medical profession of this country, and of the whole world, is a unit in believing that such bills as the one before the House are a necessity.

INVERSION IN SUSPENDED ANIMATION FROM ANÆSTHETICS.

In a paper entitled "A very Valuable Lesson for those who use Anæsthetics," read before the Baltimore Academy of Medicine on December 6, 1887, Dr. Julian J. Chisolm makes a strong argument in favor of treating suspended animation from anæsthesia by suspending the patient with the head downward, and relates several cases that recovered in his own practice under this treatment. In one case particularly, that of a child 3 years of age, upon whom Dr. Chisolm was operating for cancer of the left eye, the value of the practice was fully shown; three or four times anæsthesia had to be stopped while the child was held head downwards to reanimate it; and the operation was finally finished with the child suspended in this position so that it might be brought fully under the influence of chloroform without danger. In all, the child was suspended in the inverted position for about three-quarters of an hour.

Dr. Chisolm has used chloroform in about 10,000 cases, and without a death. He has had some cases similar to the one mentioned, but they have been revived by inversion. He never uses ether, or has not used it once in the last ten years. In the administration of chloroform he has certain rules: "All clothing must be loose around the neck. With adults an ounce of whisky is given in advance, but in cases of persons under 30 years of age this cardiac stimulant is omitted, unless the patient be feeble. Chloroform is administered with the patient lying on his back, and as soon as narcosis is induced the pillow is taken from under his head, so that he lies in an absolutely horizontal position. Should snoring occur, indicating some difficulty in pharyngeal breathing, the chin is drawn forcibly upward. This elevation pulls the anterior wall of the pharynx, with the hyoid bone and the root of the tongue, forward, making for the air a clear and straight passage from the nose into the lungs. By this movement of the chin respiration becomes immediately quiet and easy. The pulling of the chin is a much more efficient and convenient means of pulling the root of the tongue forward than by pulling out the tongue with a dressing forceps. It is not always easy at this stage of anæsthesia to get into the mouth, as the lower jaw-muscles may not be relaxed. A proper tongue-forceps is not often at hand, and to tear the tongue-substance with sharp-toothed and yet slipping instruments, with the soreness and swelling which subsequently follow, is an abominable practice that should be abolished. The patient's chin and your own hands are always present, and it only needs knowledge of the method to apply it, and to secure prompt and speedy relief."

The only inhaler that Dr. Chisolm uses is a towel folded in cone-form, with the apex of the cone open, so as to permit air to mingle with the chloroform vapor. The surgeon watches the face for signs of approaching complication: "If the ears remain pink, the heart and lungs must work properly; therefore, there is no need for feeling the pulse. Any failure on the part of either of these organs can be seen in the change of the complexion more quickly than it can be felt at the wrist." Of course one point of great safety in ophthalmo-surgical work is the fact, that when anæsthesia is complete the administrator must stop, and get out of the way of the operator; hence, the administration of the anæsthetic cannot be injuriously continued. Dr. Chisolm has operated for cataract 1,500 times. It is well-known that cataract patients are usually old, and that most frequently they are subjects of decided senile changes; the average age of cataract patients would probably be about 60 years. Before cocaine came into use Dr. Chisolm gave chloroform in all cataract cases, and must have given it to a large number of patients with fatty hearts. When a patient has very feeble heart-pulsation, with irregularity, he increases the amount of whisky administered in advance of chloroform inhalation. "I consider it much the safer practice to put whisky into the stomach, where it is ready for use if wanted, and where it can do no harm if it is not needed." In a word, in regard to the selection of cases for anæsthesia, he says: "No pathological lesion in any other parts of the body deters me from the use of chloroform should an eye-operation be required."

To return to the subject of inversion in suspended animation, Dr. Chisolm thinks, from his own experience, that many of the dead from chloroform might have been resuscitated had the surgeon immediately

hung the inanimate body up by the feet, instead of "wasting time in applying hypodermic injections, cold-water splashings, spanking, fanning, electricity, or even attempts at artificial respiration. Do any or all of these things if you will, but hang up the patient first, and that instantly, as soon as the heart and lungs fail. It is the horizontal position that is fatal in chloroform poisoning, and leads to death if the body is kept in it, as all the reports of fatal cases with chloroform show." What Dr. Chisolm says agrees perfectly with the results of Nélaton's experiments with chloroformed rats: those that, after thorough narcotization, were hung up by the tails would slowly revive, while those left lying on the table died. If, after being hung up, the rat was placed on the table to soon, breathing would again cease, and the rat would die unless suspended again. When the rat was not already dead suspension was the only thing that would restore it to life.

AN INTERNATIONAL DENTAL CONGRESS.

The *Dental Review*, of March 15, 1888, in advocating the holding of "An International Dental Congress at Paris, France, in September, 1889," disclaims any intention of interfering with a Section of Dental and Oral Surgery in connection with the Tenth International Medical Congress to be held in Berlin, 1890. Notwithstanding this disclaimer, it is difficult to see how the editor of the *Review* could more directly and certainly interfere with the organization of an efficient and successful Dental Section of the International Medical Congress in Berlin, than by persisting in his scheme of forestalling it, by a separate International Dental Congress the year preceding in Paris. The full recognition of properly educated Dentists by the successful organization of a Section of Dental and Oral Surgery, as a part of the great International Medical Congress at London, in 1881, and its repetition with still greater success as a part of the International Medical Congress at Washington, in 1887, leaves no room for doubt about the purpose of organizing a similar Section in the next Congress at Berlin, and of its permanent recognition as a legitimate department of the great field of medicine and surgery. Then why should not every enlightened member of the profession use his influence for perfecting the unity of all the departments, and the promotion of such harmony in the organization as will afford mutual support and mutual advancement. There is no interest, social, scientific or practical, to be promoted by an exclusive International Dental Congress in Paris next year, that could not be more efficiently promoted by a Section of the International Medical Congress the following year at Berlin. The published proceedings of a Congress of Dentists will reach but few outside of its own members, while the work of a Section becomes a part of the published transactions of the general Congress, and thus receives a wide distribution to members of all other Sections, and *vice versa*, the work of all other Sections becomes the property of the members of the Dental Section. So true it is, that coöperation and union imparts strength and diffuses knowledge, while seggregation and exclusiveness limits both.

MEMBERSHIP IN THE ASSOCIATION.

As this number of THE JOURNAL will be placed in the hands of a large number of medical men that are not members of the American Medical Association, we wish to call attention to the way in which membership can be gained.

State and County Societies can send a certain number of delegates to each meeting, who thus become members, and retain permanent membership thereafter so long as their annual dues are paid.

Membership can also be obtained by procuring of the Secretary and President of such Societies a certificate of membership in good standing. This certificate, together with the annual dues of five dollars, must be sent to the Treasurer of the Association. A permanent membership can be gained in this way at any time. There is no limit to the number of such certificates that the officers of a Society may issue to its members. Membership, however gained, entitles one to this weekly journal without extra charge. In it are published all the proceedings of the meetings of the Association, all the papers read before its Sections, as well as a very large number of papers from other sources, and editorials, proceedings of the leading societies of this country, foreign and domestic correspondence, book notices, and miscellaneous news.

Those desiring to subscribe for THE JOURNAL, but who do not wish to become members of the Association, can do so by forwarding to the editor the price of subscription, five dollars.

FOREIGN SURGICAL INSTRUMENTS.

The New York Neurological Society, at its last regular meeting, says the *Medical Record*, voted

unanimously not to indorse the resolutions of the Georgia State Medical Society, asking for the removal of all duties from surgical instruments and supplies. The ground was taken that the charges made against native instrument-makers were too intemperate and sweeping. Surgeons were better served by having their instrument-makers at hand rather than in Europe.

On the other hand the Medical Society of the County of New York, at the meeting of January 24,

Resolved. That the Medical Society of the County of New York urge upon Congress that in the cause of humanity the import duty should be removed from all medicines, medical and surgical appliances, and every thing used in the treatment and diagnosis of disease.

So long as the fact remains that foreign surgical instruments and appliances, at the same price, are far better than those made in this country, it is difficult to see what the character of American instrument-makers has to do with the case. And while it may be more convenient to have an instrument-maker just around the corner than in Europe, if we can get the better instrument of foreign make, at a lower price than now, from the shop around the corner, are we not better served? And if this will induce our own makers to make better instruments at a lower price, do we not obtain "the greatest good for the greatest number?"

SURGEON-GENERAL OF U. S. NAVY.—The regular term of service of Dr. F. M. Gunnell as Surgeon-General of the Navy expired on the 26th of March, 1888, and DR. JOHN M. BROWNE has been nominated as his successor by the President. Dr. Gunnell having arrived at the age of 62, and rendered faithful service over 40 years, is entitled to retire with the relative rank of Commodore. Dr. Brown, who succeeds him, entered the medical corps of the Navy in 1853, and was commissioned as Medical Director in 1878. He is eminently qualified for the important position to which he has been promoted.

WILLIAM BENJAMIN GOLDSMITH, Superintendent of the Butler Hospital for the Insane, at Providence, R. I., died on March 21 of acute pneumonia, aged 34 years. He was graduated from the College of Physicians and Surgeons of New York in 1877, and soon afterwards became second assistant in the Bloomingdale Asylum. After a period of study abroad he was made first assistant, and in 1881, when 28 years old, he was made Superintendent of the Insane Asylum at Danvers, Mass. In 1886 he was called to the Butler Hospital. He was a most earnest, useful, and promising member of the profession.

THE CINCINNATI MEETING OF THE ASSOCIATION.—As will be seen from the programme published in this number of THE JOURNAL, the officers of the Association have been diligently performing their work. The Committee of Arrangements also are to be commended for the zeal they have shown in endeavoring to provide pleasant and convenient accommodations for the meeting of the general sessions of the Association and of its Sections. They have also in store a most pleasant social programme, the details of which are not yet officially announced. Together with the programme, we publish to-day the arrangements with the railroads for reduced rates, and a list of hotels in Cincinnati, and other information that will be of interest to those about to attend the meeting. A very large attendance has been prophesied, and the excellent programme that is offered cannot fail to attract many new members. At the last meeting 1,300 were present, we hope this year the number will be increased by at least one-third.

CHANGES IN THE FACULTY OF THE MEDICAL DEPARTMENT OF GEORGETOWN UNIVERSITY.—DR. JOSEPH TABER JOHNSON, who has heretofore held the position of Professor of Obstetrics and Gynecology in the Medical Department of Georgetown University, having resigned the Professorship of Obstetrics, the chair has been divided into two separate professorships, Dr. Johnson retaining that of Gynecology, while DR. P. J. MURPHY has been appointed Professor of Obstetrics.

MEDICAL COLLEGE APPOINTMENTS.—Nicholas Senn, M.D., of Milwaukee, Wis., has been appointed Professor of the Principles of Surgery and Surgical Pathology, in the Rush Medical College; Frank T. Andrews, M.D., has been appointed Professor of Histology in the Chicago Medical College, and Henry F. Lyster, M.D., of Detroit, has recently been appointed to the Chair of Practical Medicine in the University of Michigan made vacant by the death of Professor A. B. Palmer.

THE TEXAS STATE MEDICAL ASSOCIATION will hold its next annual meeting in Galveston, from the 24th to the 27th of April, 1888. A full and profitable meeting is expected. J. F. Y. Paine, M.D., Galveston, is Chairman of the Committee of Arrangements.

ASSOCIATION ITEMS.

LIST OF OFFICERS AND PROGRAMME

Of the Thirty-Ninth Annual Meeting, to be held in Cincinnati, May 8, 9, 10, and 11.

GENERAL OFFICERS.

President.—A. Y. P. Garnett, Washington, D. C.

Vice-Presidents.—Duncan Eve, Nashville, Tenn.; Darwin Colvin, Clyde, N. Y.; C. J. O'Hagan, Greenville, N. C.; A. Stidman, Denver, Col.

Treasurer.—Richard J. Dunglison, Philadelphia, Pa.

Permanent Secretary.—W. B. Atkinson, Philadelphia, Pa.

Assistant Secretary, Joseph Ransohoff, Cincinnati, Ohio.

Librarian.—C. H. A. Kleinschmidt, Washington, D. C.

Chairman of Committee of Arrangements.—W. W. Dawson, Cincinnati, Ohio.

Sub-Committees of Arrangements.

1. Section-Work, J. T. Whittaker, Chairman.
2. Halls and Decoration, B. Stanton, Chairman.
3. Entertainments, N. P. Dandridge, Chairman.
4. Exhibits, J. C. Culbertson, Chairman.
5. Programme, J. Ransohoff, Chairman.
6. Reception, J. T. Whittaker, Chairman.
7. Finance, S. C. Ayres, Chairman.
8. Registration, Jas. M. French, Chairman.
9. Printing and Invitations, J. C. Culbertson, Chairman.
10. Transportation and Hotel, Geo. Purviance, Chairman.

PROGRAMME OF GENERAL SESSIONS.

The General Meetings will be held in the Cincinnati Music Hall and the Sectional Meetings in adjoining rooms in the same building.

FIRST DAY, MAY 8, 11 A.M.

Meeting called to order by Dr. W. W. Dawson, Chairman of the Committee of Arrangements,

Prayer.

Address of Welcome.

Announcement of Programme of entire Session.

Annual Address by President A. Y. P. Garnett, of Washington.

Call for volunteer papers and their appropriate reference.

New and miscellaneous business.

Notification for the appointment of the Nominating Committee.

SECOND DAY, MAY 9, 10 A.M.

Report of Committee of Arrangements.

Address on General Medicine, by Professor Roberts Bartholow, of Philadelphia.

Annual Report of the Board of Trustees, by J. M. Toner, M.D., Chairman.

Report of Special Committee on Dietetics.

Consideration of proposed amendments to the Constitution.

Announcement of Nominating Committee.

THIRD DAY, MAY 10, 10 A.M.

Report of Committee of Arrangements.

Address on General Surgery, by E. M. Moore, M.D., of Rochester.

Report of Committee on Rush Monument, by A. L. Gihon, M.D., Chairman.

Report of Treasurer, R. J. Dunglison, M.D.

Report of Librarian, C. H. A. Kleinschmidt, M.D.

Report of Committee on Necrology, by J. M. Toner, M.D., Chairman.

FOURTH DAY, MAY 11, 10 A.M.

Report of Committee of Arrangements.

Address on State Medicine, by H. P. Walcott, M.D., of Boston.

Final Report of Nominating Committee.

Report of Standing Committee on Meteorological Conditions, by N. S. Davis, M.D., Chairman.

Report of Special Committee on Criminality, of Fœticide and Measures for its Prevention.

Report of Special Committee on Duties commonly exercised by Coroners.

Reports of Secretaries of Sections.

New and miscellaneous business.

PROGRAMME OF SECTIONS.

Section of Practical Medicine, Materia Medica and Physiology.

Chairman, ——[1]

Secretary—N. S. Davis, Jr., Chicago.

FIRST DAY, MAY 8.

1. TOPIC—Pneumonia, Etiology, Pathology and Treatment.

a. "The Mechanism of Pneumonia and its Treatment," by C. W. VanBibber, Baltimore.

b. Henry Hartshorne, Philadelphia.

c. James L. Whittaker, Cincinnati.

d. N. S. Davis, Chicago.

General Discussion.

2. "Treatment of Empyema," by Wm. C. Dabney, University of Virginia.

3. "On the Hippocratic Operation for Empyema, with Illustrative Cases," by Frank Woodbury, Philadelphia.

General Discussion.

4. E. O. Shakespeare.

SECOND DAY, MAY 9.

1. TOPIC—Diagnosis and Treatment of Diseases of the Stomach.

a. "Some Practical Remarks on Diagnosis of Diseases of the Stomach," by Dr. Wm. Pepper, Philadelphia.

b. F. C. Shattuck, Boston.

c. J. Adams Allen, Chicago.

General Discussion.

2. "Observations upon Nutrition," (with Especial

[1] The late Dr. A. B. Palmer was Chairman-elect of this Section.

Reference to Origin of Fat, Urea and Animal Heat,) by Henry C. Chapman, Philadelphia.

3. "Septic Dysentery," by Bedford Brown, Alexandria, Va.

4. "Food in Nervous Affections," by Ephraim Cutter, New York.

5. Morton Prince, Boston.

THIRD DAY, MAY 10.

1. "Albuminuria and its Relation to Life Insurance," by James Tyson, Philadelphia.

2. C. W. Purdy, Chicago.

3. "Evolution of the Cystic Kidney," by I. N. Danforth, Chicago.

4. *a.* "The Differential Diagnosis between Central Nervous and Peripheral Nervous Affections." *b.* "The Iodoform Cap in Tubercular Meningitis," by E. C. Spitzka, New York.

5. "Cerebro-Spinal Meningitis," by J. McFadden Gaston, Atlanta, Ga.

FOURTH DAY, MAY 11.

1. "Relation of the Solar Plexus to Certain Obscure Forms of Disease," by J. Adams Allen, Chicago.

2. "Sympathetic Nervous System in Disease," by John North, Keokuk, Iowa.

3. "Abortive Treatment of Typhoid Fever," by L. D. Woodbridge, Williamstown, Mass.

4. "Clinical Experience with so-called Typho-Malarial Fever," by J. B. Marvin, Louisville, Ky.

5. H. N. Moyer, Chicago.

6. "A Second Paper on Naphthol," by J. V. Shoemaker, Philadelphia.

Section on Obstetrics and Diseases of Women.

Chairman—Ely Van de Warker, Syracuse, N. Y.
Secretary—E. W. Cushing, Boston, Mass.

The Address of the Chairman, "How Gynecology is Taught," by Ely Van de Warker, Syracuse, N. Y.

"Separation of the Symphysis Pubis in Labor, and its Treatment," by R. B. Bontecou, Troy, N. Y.

"A Plea for Early Operative Interference in Cases of Obscure Pelvic Pain, and Recurrent Attacks of Pelvic Inflammation in Women," by Rufus B. Hall, Cincinnati, O.

"Exploratory Laparotomy," by Henry O. Marcy, Boston, Mass.

"The Management of Extra-Uterine Pregnancy," by A. M. Johnson, Danville, Ky.

"Observations on the Technique of Vaginal Hysterectomy, with Report of Cases," by Chas. A. L. Reed, Cincinnati, O.

Section on Surgery and Anatomy.

Chairman—Donald McLean, Detroit, Mich.
Secretary—B. A. Watson, Jersey City, N. J.

Address by the Chairman, "Some Thoughts on Retrospective and Prospective Surgery," Donald McLean, Detroit, Mich.

"The Appendix Vermiformis; its Functions, Pathological Changes, and Treatment," by Henry Hollingsworth Smith, Philadelphia, and

J. Ransohoff, Cincinnati, O; J. McF. Gaston, Atlanta, Ga.

Discussion.

T. G. Morton, Philadelphia; H. C. Chapman, Philadelphia; Elisha H. Gregory, St. Louis, Mo.; Reed Brockway Bontecou, Troy, N. Y.

"Intestinal Obstruction in its Surgical Aspects," Chas. Bingham Penrose, Philadelphia, and

R. Harvey Reed, Mansfield, O.

"Rectal Insufflation with Hydrogen Gas as an Infallible Diagnostic Measure in ascertaining the existence of Visceral Injury of the Gastro-Intestinal Canal in Penetrating Wounds of the Abdomen. Illustrated by Three Experiments," by N. Senn, Milwaukee, Wis.

"The Surgical Advantages of the Buried Animal Suture and its Adaptability to Special Purposes," by Henry O. Marcy, Boston.

"A New Method of Excision of the Intestine," by Henry H. Mudd, St. Louis.

Discussion.

Hunter McGuire, Richmond, Va.; P. S. Connor, Cincinnati, O.; S. H. Weeks, Portland, Me.

"Electrolysis as a Prime Agent in the Removal of Nasal and Pharyngeal Neoplasms," by D. S. Campbell, Detroit, Mich.

"An Antiseptic Surgical Cabinet," by H. Landis Getz, Marshalltown, Iowa.

Section on State Medicine.

Chairman—H. B. Baker, Lansing, Mich.
Secretary—S. T. Armstrong, New York.

Address by the Chairman, H. B. Baker.

"The Causation of the Essential Fevers," by Victor C. Vaughan, Ann Arbor, Mich.

"The Internal Origin of Fevers," by J. A. Larrabee, Louisville, Ky.

"Atmospheric Temperature and Intermittent Fever," by Henry B. Baker, Lansing, Mich.

J. N. McCormack, Bowling Green, Ky.

"Report of Committee on Form of Law for Regulation of Practice of Medicine," by Perry H. Millard, Chairman.

A paper by E. O. Shakespeare, Philadelphia.

"Recent Discoveries and Researches with Regard to a Common Cause of certain Infectious Diseases," by C. W. Chancellor, Baltimore, Md.

"Should the National Government Defend our Ports Against the Invasion of the National Enemy, Contagious Disease?" by Benjamin Lee, Philadelphia, Pa.

"House Drainage," by Joseph F. Edwards, Philadelphia, Pa.

"Cremation of Garbage," by J. Berrien Lindsley, Nashville, Tenn.

"Eastern Carolina as a Residence for Tuberculous Patients," by J. M. Baker, Tarboro, N. C.

"Personal Prophylaxis Against Malarial Disease," by Geo. H. Rohé, Baltimore, Md.

"Hygiene of Infancy and Childhood," by F. B. Greenley, West Point, Ky.

Section on Ophthalmology, Otology and Laryngology.

Chairman—F. C. Hotz, Chicago, Ill.
Secretary—Edward Jackson, Philadelphia, Pa.

FIRST DAY.

Address by the Chairman, F. C. Hotz.

"Melanotic Disease of the Conjunctiva and Episcleral tissue, with Five Illustrations," by Rob. Sattler, of Cincinnati.

"Ocular Troubles Influenced by Nasal Diseases," by L. H. Taylor, of Wilkesbarre, Pa.

"Binocular Astigmatism," by H. Culbertson, of Zanesville, Ohio.

"The ¼ Dioptric Cylinder Lens the Most Useful of the List of Cylinders," by J. J. Chisolm, of Baltimore.

"The Treatment of Strabismus due to Paralysis or Extreme Over-correction with Loss of Motion," by A. E. Prince, Jacksonville, Ill.

"The Size and Illumination of Test-type," by E. Jackson, Philadelphia.

SECOND DAY.

"Some Practical Suggestions Regarding Certain Anomalies of the Ocular Muscles," by George T. Stevens, of New York.

"Gummata of the Ciliary Region," by S. C. Ayres, of Cincinnati.

"On Nutrition, or the Constitutional Treatment of Diseases of the Ear," by Laurence Turnbull, of Philadelphia.

"Some Remarks on Diseases of the Labyrinth," by Francis Dowling, of Cincinnati.

"The Bougie in Catarrhal Inflammations of the Middle Ear," by W. Cheatham, of Louisville.

THIRD DAY.

"Reflex Nasal Cough, with Report of Cases," by Max Thorner, of Cincinnati.

"Reflex Phenomena in Childhood caused by Rhinitis," by J. A. Stucky, of Lexington.

"Naso-Pharyngeal Fibromata," by E. F. Ingals, of Chicago.

"An Interesting case of Fibroma of the Larynx," by Jos. Eichberg, of Cincinnati.

"Tubercular Laryngitis," by W. E. Welsh, of Grand Rapids, Mich.

"Illustrative Points in the Examination of the Nose and Throat," by Carl von Klein, of Dayton, O.

FOURTH DAY.

"Tobacco Amblyopia," by A. R. Baker, of Cleveland, O.

"The Advantages of Leaving One Eye Open during the After-treatment of Cataract Cases," by J. J. Chisolm, of Baltimore.

"Staphyloma of the Region of the Macula," by E. Jackson, of Philadelphia.

"A Plea for the Better Recognition of the Oculist in the Service of the U. S. Pension Department," by J. W. Wright, of Columbus.

Exhibition of instruments and apparatus.

Section on Diseases of Children.

Chairman—F. E. Waxham, Chicago.

Secretary—W. B. Lawrence, Batesville, Ark.

"Infant Feeding. 1. Foods for Prematurely Born Children; 2. Mixed Diet; 3. Artificial Foods; 4. Feeding in Acute Disease," by C. W. Earle, Chicago.

Discussion opened by Wm. H. Parrish, Philadelphia; M. P. Hatfield, Chicago; J. Lewis Smith, New York; Wm. Perry Watson, Jersey City; J. T. Whittaker, Cincinnati; J. H. Ripley, New York; I. N. Love, St. Louis; G. Wheeler Jones, Danville; J. A. Larrabee, Louisville.

"Treatment of Pseudo-Membranous Laryngitis."

Discussion opened by J. Lewis Smith, New York; Fordyce Barker, New York; C. W. Earle, Chicago; Wm. Pepper, Philadelphia.

"Tracheotomy in Pseudo-Membranous Laryngitis."

Discussion opened by C. G. Jennings, Detroit; Chas. T. Parkes, Chicago; I. H. Hance, New York; J. M. Keating, Philadelphia; W. E. Casselberry, Chicago; J. H. Ripley, New York.

"Report on Intubation in Pseudo-Membranous Laryngitis," by J. O'Dwyer, New York, or F. E. Waxham, Chicago.

Discussion opened by E. F. Ingalls, Chicago; M. J. Stern, Philadelphia; L. H. Dunning, South Bend; C. E. Denhardt, New York.

"The Surgical Treatment of Empyæma," by D. A. K. Steele, Chicago.

"Hepatic Incompetence in Children," by M. P. Hatfield, Chicago.

"Chorea," by Geo. Wheeler Jones, Danville, Ill.

"Antifebrin as an Antipyretic in the Treatment of Febrile Diseases of Children, with a Report of Fifty Cases," by F. J. Parkhurst, Danvers, Ill.

"Some Points Concerning the Etiology and Treatment of Fevers of Childhood," by J. A. Larrabee, Louisville, Ky.

Section on Dental and Oral Surgery.

Chairman—J. Taft, Cincinnati.

Secretary—E. S. Talbot, Chicago.

Address of Chairman, J. Taft.

"Fracture of the Superior Maxilla and Upper Bones of the Face; Treatment by the Aid of the Inter-dental Splint, with two Illustrations," by John Marshall, Chicago.

"Etiology of Irregularities of the Teeth;" "Development of the Superior Maxilla in the Idiot, Deaf and Dumb, and Blind and Insane," by Eugene S. Talbot, Chicago.

"Treatment of Irregularities of the Teeth," by Geo. W. Keely, Oxford, Ohio.

"Dentogeny," by W. C. Brittan, Detroit, Mich.

Discussion of this paper will be opened by M. H. Fletcher, Cincinnati.

"Heredity in its Relation to the Teeth," by A. O. Rawls, Lexington, Ky.

A. E. Baldwin, Chicago, Ill.

Section on Medical Jurisprudence.

Chairman—E. M. Reid, Baltimore, Md.

Secretary—C. B. Bell, Suffolk, Iowa.

Address by the Chairman of the Section, E. M. Reid, Baltimore.

"Paralytic States, their Relation to Testamentary Capacity," by E. C. Spitzka, New York.

"Medical Jurisprudence in Relation to Wills," by Richard Gundry, Baltimore.

"Expert Testimony in Medical Jurisprudence," by Orpheus Everts, College Hill, O.

"Fœticide, its Increase, and Inadequacy of Law for its Prevention and Punishment," by H. C. Markham, Independence, Ia.

"Some Phases of the Civil Law in relation to the Development of Man," by J. W. C. Cuddy, Baltimore.

"Some Points in the Medical Jurisprudence of Insanity," by E. N. Brush, Philadelphia.

"The Medico-legal Relation of the Inebriate to Society," by I. N. Quimby, Jersey City, N. J.

"The Influence of Experimental Science upon Law," by Clark Gapen, Chicago.

"The Relation of Meconeuropathia, Opium Toxæmia and the Opium Psycho-Neurosis to Law," by C. H. Hughes, St. Louis.

"The Medico-legal Relations of Hysteria," by D. R. Brower, Chicago.

"Alcoholic Trance; its Medico-legal Relations," by T. D. Crothers, Hartford, Conn.

Section of Dermatology and Syphilography.

Chairman—L. D. Bulkley, New York.
Secretary—F. Dunlap, Danville, Ky.
Address of Chairman, L. D. Bulkley.
"The Use of Arsenic in Dermatology," by B. M. Ricketts.

Those desirous of reading papers in any of the Sections should at once send the title of their paper to W. W. Dawson, M.D., Cincinnati, and to the Chairman of the Section in which they wish to read it.

RAILROAD ARRANGEMENTS.

The Committee on Railroads have secured a reduction on the certificate plan from all railroads entering the city of Cincinnati. The rate will be full fare coming to the meeting of the American Medical Association and one-third fare returning. Physicians will please *ask for a blank certificate at the railroad office at the time they purchase* their tickets, which certificate will entitle the holder thereof to a one-third rate returning. Drs. Geo. Purviance and William Judkins are the local subcommittee in charge of railroad and hotel accommodations.

HOTELS OF CINCINNATI.

Gibson House, Walnut St. between Fourth and Fifth; $3 to $5 per day.

Burnet House, Vine and Third Sts.; $3 to $5 per day.

Grand Hotel, Fourth St. and Central Ave.; $3 to $5 per day.

The St. Nicholas, Fourth and Race Sts.; rooms $1.50 to $4 per day. European plan.

Palace Hotel, Sixth and Vine Sts.; $2 and $2.50 per day.

Hotel Emery, Vine St. between Fourth and Fifth; rooms $1 to $2.50 per day. European plan.

St. James Hotel, Fourth St. near Main; $2 to $2.50 per day.

Dennison House, Main and Fifth streets. $2 and $2.50 per day.

Walnut Street House, Walnut between Sixth and Seventh streets. $2 and $2.50 per day.

Saint Clair Hotel, Sixth and Mound streets. $3.50 to $5.00 per day.

Hunt Hotel, Vine between Fourth and Fifth streets. $1.75 per day.

Crawford House, Sixth and Walnut streets. $1.50 to $2.00 per day.

Geneva Hotel, Sixth and Race streets. $1.25 to $1.50 per day. Rooms, European plan, 50 cts. to $1.00 per day.

Galt House, Sixth and Union streets. $1.50 per day.

The following boarding houses may be mentioned:

Mrs. S. G. Morris, Seventh and Plum streets. $2 and 2.50 per day.

Mrs. Rathburn, 119 Broadway. $2 and $2.50 per day.

Mrs. W. P. Knight, 105 Broadway. $1.50 and $2.50 per day.

Mrs. Saffern, 88 East Fourth street. $1.50 and $2.50 per day.

Mrs. Fennell, 102 West seventh street. $1.50 per day.

OBJECTS OF INTEREST IN CINCINNATI.

Admission to the following places of interest by simply showing membership cards can be had by members and their wives.

The Art Museum in Eden Park. Reached by Highland House cars at Fifth and Walnut streets. Its attractions vie with the best collections even of the old world, and hours can be profitably spent in its inspection.

The Museum of Natural History on Broadway near Third is also well worthy of a visit.

The Zoological Gardens, located in the North part of the city, and covering over sixty acres of beautiful park, is reached by the Cincinnati Northern R. R., depot at Court and Broadway, or by the Vine street line of cable cars. These gardens, we are proud to say, have the finest collection of animals and birds in this country. The pair of giraffes owned by the garden, and the polar and grizzly bears are said to be the finest specimens of these animals in captivity. The collection of birds of plumage and carnivorous animals is very large and fine. A day can be profitably spent in the gardens by delegates and their wives.

The Rookwood Pottery, located at 207 Eastern Avenue, is reached by the Elm street line of street cars. The Rookwood was established through the liberal beneficence of Mrs. Storer to afford facilities for the manufacture of the finest grades of pottery ware, and especially to cultivate a growing taste for the beautiful in art as illustrated in home adornment. As this industry has been entirely conducted by ladies, it will be of special interest to the wives of delegates.

The Cuvier Club Rooms, on Longworth near Race, contains a museum of prepared specimens of

fish, birds, and all kinds of game that are well worth visiting.

The gymnasium, at corner of Longworth and Vine streets, is a complete institution.

The Public Library and Reading Room, on Vine between Sixth and Seventh, and the Mercantile Library, on Walnut street between Fourth and Fifth, are worthy of a visit and will furnish delegates an opportunity to see the newspapers of their own locality.

The Highland House, with its incline plane railroad, affords one of the finest views of the beautiful river and its spans of bridges that it is possible to obtain.

The Cincinnati Hospital, on Twelfth and Central Avenue.

St. Mary's Hospital, on Betts and Linn.

The Good Samaritan Hospital, on Lock street.

The United States Marine Hospital, on East Third street.

The Children's Hospital, on Mount Auburn.

Longview Insane Asylum, at Carthage on C. H. & D. R. R.

The Ohio River Bridges and the Centennial Exposition Buildings.

SOCIETY PROCEEDINGS.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meeting, January 30, 1888.

DR. GUSTAV ZINKE reported a case of

CÆSAREAN OPERATION, WITH A DESCRIPTION OF THE SÄNGER OPERATION.

(See p. 413.)

DR. C. D. PALMER said that, having been present at the autopsy, he could testify to the accuracy of the pelvic measurements as reported. The pelvis, if classified, might be called a justo-minor, except that the antero-posterior diameter of the brim was contracted out of all proportion to the remaining diameters. The contraction at the brim was about 2 inches for the conjugate, and 1 to 1¼ inches for the oblique diameters. In the treatment of pelvic deformities we have at our disposal five different, distinct methods of delivery, viz.: the induction of premature delivery, the forceps, version, craniotomy, or its improved modification, and Cæsarean section or some of its modifications. While these come in conflict in some cases, to a large extent each has a special field of application. Although the question of the induction of premature labor has no direct bearing on this case, at the same time it may be interesting to inquire whether this poor woman could have been delivered of a living child if the condition of her pelvis had been known early enough in pregnancy; or whether, if she had recovered and again become pregnant, could she be delivered *per vias naturales?* Premature labor is induced for the sake of both mother and child, from the 32d to the 36th week of utero-gestation—the earlier the better for the mother, the later the better for the child, *cæteris paribus*. Delivery has been induced as early as the 7th lunar month with a living child, with a pelvis as small as 2½ inches conjugate. But when we recall that this pelvis was not only so small in the conjugate, but much contracted in all other diameters, it implies that delivery would have to be induced necessarily earlier than the 7th lunar month, and completed, it is not improbable, by the forceps or version, with some delay, and at a time when the child was very young and feeble, it seems merely possible that it could have been born alive, or if alive, for it to live on account of prematurity. It is safe to say that the induction of premature labor with a live child in this case was impracticable. If this woman had survived and become pregnant again, one of two things would have had to be done: the induction of an abortion very early in pregnancy or, better still, the allowing of the pregnancy to go on until term, and then, at a favorable time in labor, to perform abdominal uterine section.

This was no case for the forceps, for the range of this instrument is for pelves of from 4 to 3½ or 3¼ inches conjugate. He would not wish to condemn the practice of the gentlemen who used the forceps in this case, hoping thereby they might effect delivery. Under the circumstances, a non-acquaintance with the exact pelvic dimensions to be encountered, a lack of knowledge only to be supplied by the experience then obtained, almost any obstetrician would have applied the forceps at first, to test what they could do. Their application could do no harm, if their use was not unduly and forcibly persisted in. Nor was this a case for podalic version. The range of application of version is in pelves with conjugates from 3½ or 3¼ inches to 2¾ inches. Version is done with the expectation of delivering a live child, and offers in proper cases a most useful means to improve upon nature's mechanism in head cases, as well as the utilization of additional forces to aid the expulsion of the child. The conjugate diameter of the brim is more frequently and decidedly contracted in pelvic deformities than any other. Therefore, its measurement has served as the chief guide—the key to the lock of the pelvis. A conjugate ranging from 2¾ to 1¾ in. is the field of utility of craniotomy and Cæsarean section. The conjugate of the pelvis under discussion was 2½ inches, and within this range. Manifestly, then, one or the other of these two methods was to be considered. A live child at term could not have been delivered *per vias naturales*, and if the child was to be saved, Cæsarean section offered the only means. As a general rule, we say that if the child is dead, with these pelvic measurements craniotomy is the proper resort, and if alive, Cæsarean section. But no absolute or inflexible rule can be laid down. There are exceptions always. Craniotomy under certain circumstances may be best even although the child is alive, and Cæsarean section is to be preferred with a dead child if the pelvic contraction is very great. To a great extent, Cæsarean section is the operation of election, while craniotomy is the operation of

necessity. In all cases we are to look first to the mother. Her interests are not tantamount, but paramount. This principle in management, although old, stands to-day as it ever did. While a mother is undoubtedly called upon to sacrifice somewhat of her chances for life that she may have a living child, she should not be asked to sacrifice her life. No woman in parturition should be advised to submit to an operative procedure which places her life in great jeopardy for her child's sake, if there is a more favorable way. Unless there is a reasonable prospect of saving her life as well as the infant's, the Cæsarean section should be ruled out. She has the right to decide.

Should craniotomy, then, be abolished? In a recent discussion of this subject, Dr. Meadows, one of the most eminent of Great Britain's obstetricians, exclaimed: "Where now is craniotomy?" In reply the speaker would remark that it still lives, and should live. Next, then, to the life of the child in determining between these two operations, is the question of the risks of each. With pelvic contractions not greater than 2½ in. the risks of craniotomy are not greater—less than by Cæsarean section. If done early very few indeed need die. Death after craniotomy is largely due to delays and injuries from other manipulations. But the risks very rapidly increase when the contraction extends below 2½ in. Near to 2 in. it exceeds those attending Cæsarean section. All things equal, as to the time of operation and conditions, it may be said that the risks of the two operations are about the same with a pelvic measurement of 2½ in. Just at this point these two operations, *cæteris paribus*, must come into very severe competition. As the mother's interest is paramount, craniotomy is not to be laid aside unless Cæsarean section holds forth equally good chances for her life. The following is a condition in which craniotomy is justifiable although the child is living: A long, difficult labor, extending over many hours, it may be days; the liquor amnii has drained off, the uterine discharges are dark, offensive and unhealthy-looking; the fœtal head is impacted within the pelvis, or it may be floating above the brim; the cervix is swollen, œdematous and bruised; the vagina swollen and livid, the uterus tetanic, or has ceased to act; the patient exhausted, with anxious facies, frequent pulse and feverish. This is no very uncommon picture. What conditions are these for uterine section? What chance has such a woman to recover after Cæsarean section? In what state is such an uterus to be cut, to contract, to be sewed, to heal? Craniotomy, unless the contraction is at or below 2½ in., offers a far better chance for the mother.

Much of the opposition to craniotomy has arisen for two reasons: *First*, because it has been performed too frequently, and of course unjustifiably. But abuse is no argument for total abolition. *Second*, because of the very favorable reports attending Cæsarean section, especially in Germany. In the hands of Sänger, Martin, Leopold, Credé, and a very few others, the recovery has been nearly 80 per cent. If we contrast this high rate of recovery in Germany with the rates in the United States, it speaks very unfavorably for us. Out of nearly 160 cases collected from this country by Harris the rate of recovery is only 37.5 per cent. These figures must not be taken on their face without an inquiry into the causes and circumstances attending each. In the first place, the operations in Germany are done by a few experienced and skilful men. Each has had much experience. Most of the operations have been done in hospitals with good surroundings. They have been done early in labor at most favorable times. The exact opposite is true, as a rule, in the United States. No better proof of the earliness of the operations done abroad can be offered than that, out of 33 cases, 31 children were born alive. If we collect the cases in which the operations were done early in the United States, we shall see that the rate of recovery is very good, viz.: about 70 per cent.

Sänger has placed great stress upon his method of suturing. While the speaker would not wish to detract one iota of merit justly due this faithful and deserving worker, nevertheless it must be apparent to the careful investigator that his great success is not so much attributable to this, as to the earliness of the operations. The Sänger operations in this country (5 cases) have all proved fatal, because they were done late. The Sänger technique could not save them; they died in spite of the operation. They died in advance of the operation. The three great factors of success of Cæsarean section are: *first*, that it be done early, while the patient's general conditions are favorable; *second*, it must be done antiseptically; *third*, the uterine wound must be most carefully sutured. The first factor is the most important of all. Now, this conflict between craniotomy and Cæsarean section will continue so long as the dangers of the latter exceed those of the former. When the technique of the Sänger operation is perfected, when this technique is well understood, when the operations are done early, when pelvic deformities in this country are more thoroughly studied and appreciated, then will the section be more frequently made, its rate of success gradually increase, and in the same ratio will the necessity for craniotomy equally diminish. Then shall we be obliged to encounter a fewer number of those dreadful cases where at our first interview we are brought face to face with a parturient woman exhausted after several days' labor, a midwife and several practitioners in attendance, each having exhausted himself in fruitless efforts to deliver; with soft parts bruised, swollen and lacerated, and finally a craniotomy or a section with a forlorn hope. The abolition of craniotomy on living children is a consummation devoutly to be wished, but in the present state of affairs it is an advance not yet to be realized.

In Dr. Zinke's case, conditions were certainly not favorable for the section; still, it was probably to be preferred to craniotomy, because the child was living, and because the measurements of the pelvis were at that border line where the risks of the two operations did not widely differ. Of course it will now remain an open question whether the woman might not have recovered under craniotomy. Dr. Palmer did not

regard this as a proper case for the Porro operation. The uterus was in a fair condition for section, and it is always to be preferred except in those cases where the organ is greatly bruised, lacerated, gangrenous or septic. These complications may make the Porro-Müller operation not only superior but necessary. Laparo-elytrotomy possesses certain advantages in the diminished risk of a loss of blood, and septic infection, but its technique is not so well understood, nor as easy of execution. The improved section is generally preferable. The improved Cæsarean section is an outgrowth of many improvements in abdominal surgery, running through many years. Although the Sänger operation has nothing distinctly original due to Sänger, but embraces points understood and executed by Müller, Frank, Leopold, Kehrer and others, nevertheless Sänger has formulated all these improvements, shown their combined utility, and hence with perfect propriety the operation as now understood and now recognized as the best, ought to be called the Sänger operation.

In conclusion, Dr. Palmer said that Cæsarean section had (to his knowledge) been performed but three times in Cincinnati; once by Dr. Walton, on a dwarf, done early; once by Dr. N. P. Dandridge, (laparo-elytrotomy) done late; and finally the one reported this evening by Dr. Zinke. All were fatal.

DR. W. H. WENNING said that the indications for the operation were accurately given by Dr. Palmer. The statistics of the Sänger method certainly show a great superiority over the old manner of operating, and the results are so brilliant that we may confidently hope to see Cæsarean section exhibit its triumphs as well as other abdominal operations. We all remember that ovariotomy was at one time bitterly opposed by men high in authority, and whilst it was then often considered unjustifiable, the reverse is now true; it is unjustifiable *not* to operate if there be any hope of success. He could not help being struck, however, with the unfavorable record of this operation in the United States when compared with Germany. This could, however, readily be explained by the fact that the recent records of the Sänger operation are from men well-skilled in abdominal operations, being either professors or their trained assistants. Moreover, the patients were seen early, the deformity diagnosed early and the operation performed before futile attempts at delivery had been made. They were removed to the clinic and the operation performed *secundum artem*. The statistics in this country are based upon operations performed by a large number of men, some of whom perhaps never witnessed or performed a laporotomy before. The comparison could not be considered altogether fair; if the average was a general one for all Germany as for the United States, he doubted its being any better than our own. He then read the statistics of the first 50 Sänger operations as published by Credé in the *Archiv. für Gynäkologie*, vol. xxx, No. 1, in which the percentage of recovery was shown to be 72 per cent. for all and 88.2 per cent. for Germany alone, the United States contributing four cases with four deaths. He could, however, hardly account for the increasing mortality in this country as shown by Dr. J. Taber Johnson, based upon the record of Dr. Harris. According to his statement of it of 144 operations, only 54 women (37½ per cent.) recovered; but while the first 50 showed 54 per cent. of recoveries, the last 50 showed a favorable result in but 24 per cent. These figures might be somewhat modified by the additional cases mentioned by the essayist. This record also shows the superiority of the Sänger method over the Porro operation. The first 50 Porro operations show 21 recoveries (42 per cent.), whilst the Sänger method shows 36 recoveries (72 per cent.), a difference of 30 per cent. in favor of the latter. He felt confident that Cæsarean section would ere long supplant embryotomy of the living child.

DR. T. P. WHITE said it was the attendant's duty to advise the operation that afforded the best chance to both mother and child, but doubted if the mother would ever accept Cæsarean section in preference to craniotomy, were the true facts presented to her. It is unfortunate for the reputation of Cincinnati that all three cases operated upon had terminated fatally. He was of the opinion that it was not the fault of the operators, but the result was largely due to the prevalent custom of employing midwives in the parturient stage, a physician not being called in until the woman was exhausted. In consequence of such delay the operation could be but a *dernier ressort*, and the prospect of recovery greatly diminished by reason of the unfavorable local and general conditions. In the case under consideration the gangrenous condition of the uterus at the autopsy clearly demonstrates its condition and no wonder the termination was in death. In such cases he prefers the Porro operation, as he thinks the prospects of recovery much better.

DR. GUSTAV ZINKE desired to refer to but a few points:

1st. That gangrenous peritonitis existed cannot be doubted if the character of the pus and pelvic peritoneum be at all considered. At the time of the operation however, the parts seemed to be in a perfectly healthy condition. The uterus contracted promptly and the placenta was expelled as from a healthy uterus.

2d. He did not believe that the criticism in reference to the advisability of Porro operation in cases like his own would hold good. True the removal of the uterus would act as a safeguard against future pregnancies. But what surgeon would amputate an arm or leg to prevent a possible future fracture. The aim of surgery is to save and restore if possible to perfection the injured or diseased parts. The Porro operation is justly limited, to the case described in the essay. The Sänger method will be adopted in preference to the Porro operation, wherever its technique is fully understood.

3d. Midwives are blamed for a good many mishaps unjustly. We must all confess that they are not what they should be. Whose fault is this? They have their sphere. In natural cases, a woman of ordinary intelligence, properly trained, can unquestionably undertake the management of a natural case of labor with propriety. She should also possess

knowledge of abnormal conditions and where they are present call for medical aid.

4th. He concedes that of late, especially in the hands of Lawson Tait, a laxative in the form of Epsom salts has in many instances dispelled the approach of peritonitis or cellulitis. He expressed the hope that, while Lawson Tait has taught the surgical world to open the abdominal cavity and remove the uterine appendages or other diseased structure with impunity, that the day is not far distant that will bring us a remedy to relieve reflex phenomena which apparently reside within the ovaries.

FOREIGN CORRESPONDENCE

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Female Medical Aid to the Women of India—The Health of Manchester—Surgical Treatment of Empyema—Haya Poison, a New Anæsthetic—Pulsating Tumor of the Orbit, with Protopsis—Foreign Practitioners in Switzerland—Sir Morell Mackenzie—The British Nurses' Association.

The third annual report of the association for supplying female medical aid to the women of India, presented to the recent meeting under the Presidency of the Viceroy, abounds in signs of good omen for the future of this important movement. The scholarships founded by the high priest of the Temple at Baidquath have, it is true, not yet been utilized, as no Hindoo female medical students belonging to any of the high castes have been found willing to come forward and claim them. It is a significant fact, however, that a Hindoo lady of Calcutta has founded two prizes for female medical students in memory of her deceased husband, whose name they will bear. Elsewhere, according to the report, evidences are multiplying of the weakening of the prejudices which have so long condemned the native women of India to hopeless suffering. The great event of last year was the Jubilee collection. Donations of one lakh from the Maharaja of Jeypore, and of half a lakh from the Nizam and Maharaja of Ulwar, with many large subscriptions from others, have been received. By means of Jubilee collecting cards £1,890 were collected in England and nearly five lakhs in India. The income of the association is already estimated at 30,000 rupees per annum.

In spite of able and energetic municipal officers and a liberal expenditure of money on sanitary objects, Manchester, according to the address of Dr. Ransome to the local Statistical Society, is still the most unhealthy city in the Kingdom—its death-rate being 60 per cent. above the average of twenty-eight other towns. A somewhat better account is to be given of the twin borough of Salford, which is only 25 per cent. behind the same localities. Dr. Ransome expressed an opinion that during the last twenty years there has been some improvement in the physical condition of the work-people of Manchester; that the generation now growing up has, on the whole, been better fed and less severely worked than the one preceding it, and that the result has been a distinct improvement in the appearance and in the health of both male and female workers. Dr. Ransome urged that accurate measurements should be made every ten years of representative groups of the population at certain ages, so that these could be compared, and stock taken of progress or otherwise.

Mr. Mansell Moullin, speaking recently of the surgical treatment of empyema, said everything pointed, except in children and tuberculous cases, which were expressly excluded, to operation as early as possible. He considered primary excision of a rib was hardly ever required, unless the empyema was localized, as India rubber tubes very soon wore the ribs away, so that there was little danger of their being nipped as the thorax collapsed. Based on an analysis of thirty-four cases, Mr. Moullin considered two tubes must always be inserted, even if they were only a few inches apart; they might be in the same intercostal space, but there must be two for effective drainage. The situation he generally chose was in the fifth or seventh interspace in the mid axillary line. Washing out the cavity was found to be quite unnecessary, if air was allowed to pass freely out and in there was no decomposition, the pus in amount diminished almost to nothing and the cavity rapidly closed in. In old cases the first thing was to establish free drainage by making a second opening. On five cases it had been necessary to trephine the ribs, as the chest wall had practically become a solid bony cuirass. In two cases some of the ribs had been resected, in one two inches of four had been removed, in order to allow the thorax to collapse, but the patient, who had other complications, sank from exhaustion ten days after. In the other, portions of two ribs were excised, as the sinus ran rather round the thorax following the direction of those ribs, than upwards as in the former case. This was attended with considerable benefit. In no case was any trouble experienced from the intercostal arteries. The direction in which the sinuses run must in each case determine where the ribs should be cut, how many should be removed and how much of each.

An English firm has produced another new anæsthetic, called Haya poison. The substance is of two kinds: the first amorphous, dark brown externally, brownish-green on fracture, compressible and powdered only with difficulty; the other almost black, translucent and brittle. Experiments having been made with a view to determining the presence of its anæsthetic properties, it was found that Haya poison produced in the cornea anæsthesia similar to that of cocaine, but lasting eight or ten hours. When hypodermically injected it produces in animals a slowing of the heart's action and paralysis of the extremities, with subsequently disturbance of the respiratory functions, dyspnœa, convulsions and salivation. At present it is thought that the anæsthetic properties of the new product are due to its containing minute quantities of erythrophlerine.

Mr. Adams Frost has had under his charge an interesting case of pulsating tumor of the orbit with proptosis. In answer to questions the man had again and again stated that the injury was caused by being

struck by a piece of wood as thick as his thigh and many pounds weight, that it struck him with considerable violence, and that the end was blunt and as large as a fist. This history made the case present difficulties as to the exact cause of the phenomena, they being as consistent with an intracranial as with an intraorbital lesion. Looking at the pathology of other cases, Mr. Adams Frost is disposed to take the view that a fracture has been produced passing across the carotid artery in the cavernous sinus.

Sore tribulation has arisen among the British invalids in the Engadine, on account of a decree being suddenly passed by the authorities forbidding any one not armed with a native diploma to practice medicine in Switzerland. The flocks of sufferers thus deprived of their regular medical attendants have appealed to our Minister at Berne. The decree certainly seems somewhat suicidal, for it is the foreign visitors who have made the fortune of these Swiss health resorts, and if the winter residents are driven to seek fresh fields and pastures new, the legislators responsible for the enactment will find that they have killed the goose that laid the golden eggs.

From Berlin it is reported that Sir Morell Mackenzie is looking very careworn and haggard, evidently feeling the heavy responsibility attached to him. He is stated to be continually receiving letters in which his life is threatened if he does not take his departure from the German capital. He is attended by two detectives when he walks by himself in the grounds attached to the palace.

The British Nurses' Association is going to establish a register for nurses, which shall be a guarantee to the public that those whose names are on it have received a sufficient amount of training to make them thoroughly efficient. G. O. M.

MISCELLANEOUS.

THE INDEX MEDICUS.—The number of student physicians in any place can be fairly judged by the number of subscribers to the "Index Medicus." As a matter of curiosity we append the following list of paying subscribers in and out of the United States:

Memorandum Showing the Number of Paying Subscribers to the "Index Medicus."

United States.		*Foreign.*	
California	3	Argentine Republic	1
Connecticut	3	Australia	2
District of Columbia	14	Belgium	1
Georgia	2	Canada	1
Illinois	8	Denmark	1
Indiana	1	England	41
Louisiana	2	France	18
Maine	3	Germany	33
Maryland	13	Holland	1
Massachusetts	34	Ireland	2
Michigan	7	Italy	1
Minnesota	2	Japan	1
Missouri	5	Peru	1
Nebraska	1	Russia	5
New Jersey	5	Scotland	9
New York	78	Switzerland	4
Ohio	6	Turkey	1
Pennsylvania	39		123
Rhode Island	7		
South Carolina	2	Total, United States and Foreign	363
Vermont	1		
Virginia	2		
Wisconsin	2		
	240		

In addition to these, 100 copies are taken for distribution to the medical officers of the army at special rate, making 463 total.

In the home list it is curious to remark that New York has twice as many subscribers as Pennsylvania, and that in Massachusetts, Maryland, and the District of Columbia, a reading physician does not seem to be a very scarce animal. In the great State of Illinois, with the fermenting mass of commercial activity like Chicago, but eight doctors have had pride enough in their country's publication, interest enough in medical science, or a love of reading sufficient to warrant their spending ten dollars a year in sustaining the most illustrious medical publication in the United States, and nurturing their own souls and bodies by medical culture. Worse than this, a rich State like Kentucky, with cities as large as Louisville, does not even seem to require one copy of the publication.

The receipts from the "Index Medicus" to the publisher, are not nearly enough to cover the cost of so extensive a publication. Mr. Davis deserves the very warmest thanks of the profession, but how long he will continue to carry this burden, we do not know. It is most extraordinary that he does not in this matter receive better backing. The thanks of the profession are good, but the thanks which do not express themselves in bank-notes are only an exemplification of the old proverb, "Soft words butter no parsnips."—*Therapeutic Gazette.*

DAMAGES FOR DEFECTIVE HOUSE DRAINS.—A case of some hygienic and public importance came last week before Mr. Commissioner Kerr in the City of London Court. Two ladies sought to recover £25, damages sustained by them by reason of the defendant's misrepresentations as to the state of the drainage at the house occupied by them as tenants at a rental of £90 a year. It was stated for the plaintiffs that a distinct assurance was given either by the defendant or his agent that the drains were in perfect order; but soon after the plaintiffs entered into possession they discovered that the drains were defective. Some repairs were made, and then came a plague of rats, as many as twenty-two having been killed in a fewer number of days. When complaint of this was made to the agent, he philosophically replied that "they would go away in due course." It was also stated that as the result of the insanitary state of the house the plaintiffs' boarders became ill and left, and the plaintiffs had suffered loss to the extent of the sum claimed. Mr. Commissioner Kerr recognized the claim, and gave judgment for the plaintiffs for £10, with costs on the higher scale.

THE CROONIAN LECTURES for this year, by Dr. Donald MacAlister, will be on "Antipyretics."

ARKANSAS STATE MEDICAL SOCIETY will meet at Fort Smith on April 25, 26, and 27.

NORTH CAROLINA STATE MEDICAL SOCIETY will meet at Fayetteville on May 8, 9, and 10.

A NATIONAL PHARMACOPŒIA.—MR. S. J. RANDALL has introduced a bill into the House for appropriating $5,000 for publishing a National Pharmacopœia, to be edited by two officers of the Marine Hospital Service, and two each from the medical staffs of the Army and Navy.

THE WESTERN PENNSYLVANIA MEDICAL COLLEGE, of Pittsburg, held its second annual commencement on March 24. The degree of M.D. was conferred on thirty-four graduates. In the evening a banquet was held.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM MARCH 24, 1888, TO MARCH 30, 1888.

Major Wm. C. Spencer, Surgeon, died March 22, 1888, at Ft. Trumbull, Conn.

Major J. P. Kimball, Surgeon, granted leave of absence for two months, to take effect about April 10, 1888. S. O. 68, A. G. O., March 23, 1888.

First Lieut. W. D. Crosby, Asst. Surgeon, granted leave of absence for two weeks. S. O. 29, Dept. Ariz., March 16, 1888.

Capt. Thomas F. Ayfull, Asst. Surgeon (retired), died March 12, 1888, at Ft. Lee, N. J.